VOL. III.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1908.

No. 396.

WILLIAM R. WILLCOX ET AL., CONSTITUTING THE PUBLIC SERVICE COMMISSION OF THE STATE OF NEW YORK FOR THE FIRST DISTRICT, APPELLANTS,

vs.

CONSOLIDATED GAS COMPANY OF NEW YORK.

No. 397.

THE CITY OF NEW YORK, APPELLANT,

vs.

CONSOLIDATED GAS COMPANY OF NEW YORK.

No. 398.

WILLIAM S. JACKSON, AS ATTORNEY GENERAL OF THE STATE OF NEW YORK, APPELLANT,

vs.

CONSOLIDATED GAS COMPANY OF NEW YORK.

APPEALS FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK.

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2249a Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *October* 1, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Garver, Mr. Page, Mr. Kirby, Mr. Burr.

U. S. Circuit Court, Southern District, N. Y. Filed Jun- 24, 1907. John A. Shields, Clerk.

2250 Mr. BURR: I wish to say, Mr. Master, that since the last adjournment I have made a motion before Mr. Justice Lacombe for an examination of the books of the company and for an inspection of its plants. That motion was set for last Thursday, and because of my illness it went over until Friday next. I have also, as was suggested at the last hearing, served in formal manner the motions I made then informally to dismiss and to strike out; copies of those papers were served upon the respective attorneys, and they are now handed to us by the stenographer in printed form, and they form part of the record. I find that there was one motion that was omitted.

I therefore now move further to strike out the testimony of Bradley, Simpson, Carter, Addicks and Humphreys so far as such testimony is based on the exhibits or statements purporting to be taken from the books of the company. And I also move to strike out the act or the franchise which was offered relating to the Mutual Gas Light Company.

Mr. PAGE: I join in the motion made by the City of New York to strike out the testimony, and I would like to have the following spread on the record as my statement of my motion to dismiss:

The defendants, Julius M. Mayer, as Attorney General, William Travers Jerome, as District Attorney, Frederick E. Gunnison, John C. Davies and Lucian L. Shedden, constituting the New York State Commission of Gas and Electricity, move to dismiss the bill of complaint herein on the complainant's evidence, on the ground:

That the complainant has failed to establish its case in this, that

2251 I. The complainant has failed to show that Chapter 736 of the Laws of the State of New York of 1905 and Chapter

125 of the Laws of the State of New York of 1906, in so far as they establish a rate to be charged for gas to the City of New York at 75 cents per thousand feet, and to the private consumers at 80 cents, is confiscatory in that it does not allow a fair return on the capital invested in the business of making and distributing gas.

II. The complainants have failed to prove what it costs *it* to make and distribute gas to its consumers.

The testimony given is argumentative merely, although it was shown that records were kept by the secretary of the company which showed month by month what it actually did cost, and these records were not produced in evidence.

III. The complainants have failed to prove the amount of capital actually invested in making and distributing gas upon which *it* would be entitled to a return.

All the complainant's evidence as to value is hypothetical, and does not bear any relation to actual conditions or proper hypothesis, (*a*) The value of its real estate is given as the valuation of vacant lots without buildings, while their witness, Mr. Priess, admitted that the same was less valuable with a gas works upon them; (*b*) no evidence has been given showing exactly what portions of the real estate were used by the company in its gas-making business; (*c*) the valuation of buildings and plant is given at the cost to-day to reproduce the identical buildings and machinery, irrespective of the fact as to whether they were commercially and economically worth re-
2252 producing; (*d*) the complainant has failed to prove the amount of capital actually invested in its real estate and plant, or what it would cost to construct a plant that would produce and distribute the same amount of gas under modern conditions.

IV. The complainant does not prove or claim that it cannot earn and does not earn sufficient to pay four per cent. in dividends on its entire capital stock, although more than one-half of which is conceded to be invested in the stocks, bonds or obligations of other companies.

It has been shown that the complainant to-day, under the operation of these laws, is paying four per cent. dividends on $80,000,000 of capital stock. It has been proved that at least $56,000,000 of this capital is invested in the stocks and securities of other companies which are very largely unproductive.

V. The complainant has failed to prove that it is impossible to comply with the regulation with regard to pressure contained in said Acts of the Legislature.

It is admitted that no attempt has been made to regulate and control the pressure, and that in other cities district governors are used for that purpose. That it might cost the complainant something to comply with the law does not render it unconstitutional; it must be shown that the penalty attaches for the failure to comply with an impossible condition.

VI. Chapter 737 of the Laws of 1905, which establishes a commission of gas and electricity, is clearly a constitutional exercise of the power of the Legislature, and the order made by it February 23d,

1906, was a reasonable exercise of its powers, for the reasons set forth under the foregoing subdivisions of this motion.

The MASTER: I will make no disposition of those motions
2253 at present until I have had an opportunity to examine them. The understanding was at the last hearing that they were to be submitted within a week thereafter and sent to me some time before this hearing to be passed on. I observe the time schedule has somewhat overrun and so I will defer action on them for the present.

Mr. BURR: They probably would have been served sooner only I went straight from this hearing to a sick bed and was several days in bed.

The MASTER: I am sorry to hear that. Are we ready to proceed this morning?

Mr. KIRBY: I have some motions to make here in the absence of Senator Page, who is talking over the telephone. I will simply read from his memorandum:

The defendant moves that the hearing herein be adjourned until after the presentation and determination of a motion brought on by an order to show cause which was returnable last Friday before the judge sitting in the Circuit Court of the United States for the Southern District of New York, and which order was as follows:

Upon the annexed affidavit of Gustavus T. Kirby, verified the 25th day of September, 1906, on all the pleadings and proceedings had herein.

It is Ordered that the complain-t show cause before the Hon. E. Henry Lacombe at a stated term of this Court, to be held in the General Post Office Building in the Borough of Manhattan, City of New York, on the 27th day of September 1906, at 11:30 o'clock in the forenoon, or as soon thereafter as counsel can be heard, why an order should not be issued directing the complain-t herein to
2254 permit an examination of its books, papers, vouchers and plants, buildings and apparatus by the accountants and engineer of the defendant, the State of New York, and for such other and further relief as to the Court may seem just and proper.

And it is further ordered that service of a copy of this order and of the affidavits upon which the same is based, upon the attorneys for the parties hereto on or before the 25th day of September, 1906, shall be sufficient.

Dated, New York, September 25, 1906.

(Signed) C. M. HOUGH, *P. J.*

Mr. KIRBY: And the affidavit thereto annexed to be spread on the record as though read.

Mr. MATHEWSON: Is it necessary to spread that on the record? I think that the statement is that a motion has been made of a certain general character, and it does not seem necessary to spread the affidavit on the record from which that is made.

The MASTER: What is the necessity of that?

Mr. KIRBY: I see no reason why the affidavit itself should be spread on the record, but the relief asked for being stated in the order to show cause, I think should have been spread on the record and that is the part I have read.

Mr. MATHEWSON: No objection to that.

Mr. KIRBY: Then we do not offer the affidavit at this time. And we also ask that the hearings herein be adjourned until after the hearing and determination of the motion for a similar order brought on by the defendants, the City of New York, and which motion is practically in the same form as that or the order to show cause which has been read. The grounds of this application are generally those set down in the above moving papers as the reason why the
2255 hearing before the Master should be adjourned until after the defendants have an opportunity to examine the plants, books, and records of the complain-t; specifically upon the grounds that until after the hearing and determination of these motions the defendant will be in no position to determine the kind and character of its defence and the nature of its testimony which it will present. If the motions made should be granted, its defence will consist of testimony of its experts relative to results of such examination, and their deductions therefrom. If, on the other hand, the motions are denied, its witnesses can only give testimony as to their opinion of the correctness or incorrectness of the testimony of the witnesses of the complain-t, and make on their own account such deductions therefrom as seem to them fit and proper. Such testimony being largely hypothetical would be but cumbering the record, and unnecessarily, if the defendant was permitted to, from its own examination, obtain the information demanded in the motions referred to and which is imperative and necessary to its defence.

The defendant takes occasion to here state to the Master that the arguments of the motions referred to has been adjourned by the Court until Friday, October 5, 1906; that such adjournment was not at the request of the State of New York, but that on the other hand the State was ready to proceed with the argument thereof on the return day of the argument to show cause—that is, on the 27th day of September, 1906.

That the complainant on the return of said order to show cause on said 27th day of September, 1906, stated that it was not ready to proceed for the reason that the order to show cause had not
2256 been served upon it until the 25th day of September, 1906; and that while such statement was true, that as the complainant was aware (and which the papers themselves show) the motion of the State was identical with that of the City of New York, which made service of its moving papers on Saturday, the 22d day of September, 1906; the same being within the time permitted by the Court for regular notice of motion to be served; and further, that the complainant had been informed before the adjournment of this hearing on Friday, September 7, 1906, that such an application was to be made and as to the grounds upon which the application would be made.

And the defendant stands ready to argue such motion at this or any other time, and is in no way responsible for the adjournment of said argument until the date set by the Court for the hearing thereof.

The defendant has made repeated application for the permission requested in its moving papers, both to the Master and to the complainant, and that such application has in each instance been denied.

Mr. BURR: I would say in addition to what I have already said on that subject that I got out of my sick bed to prepare these papers for the motion for the examination of the books and the inspection of the plants which I deemed was very essential for the preparation of the defence of the City, and those papers were served on the 22d day of September—at least a notice of motion—and the motion was returnable on the 27th day of September, 1906. On that day I was unable by reason of illness to appear and argue the motion and it was adjourned by Mr. Justice Lacombe until Friday.
2257 The City finds itself in the same difficulty as the State. Our experts whose affidavits are attached to the voluminous papers that I propose to submit on this motion all agree that without such an examination of the plants and without such an examination of the books as they ask for in these affidavits, the City will be seriously hampered in the proper presentation of its defence. If I proceed this morning with our case it will be with the serious disadvantage that we are obliged to take the statements as they are on record here, without the examination of the books which is the source from which these statements have been taken, and without an examination of the plant, the valuation of which has been testified to by those who carefully examined them on behalf of the complainant. That is all I desire to say at this moment.

Mr. GARVER: It seems to me these motions are addressed to a tribunal that has no power to pass upon them. So far as the complainant is concerned we have always gone to Judge Lacombe for an extension and as I understand it, he has expressly stated that he did not propose to allow the time to be extended in this case either by a consent of counsel or in any other way except under his own personal supervision. Now, when these motions came up before him last Thursday and an application was made on behalf of Mr. Burr, for the adjournment, he asked of me whether I had any objection to the adjournment and I said not if the time was not extended and he very emphatically stated at that time that there was no motion before him for an extension, and after some argument by counsel there and reasons stated why an extension should be granted, he de-
2258 clined very emphatically to grant any extension and *and* stated that he had understood that the attitude of the company right along for a couple of months had been that of denying the right to the defendants of the inspection applied for, and in view of the delay of which they had been guilty in making the application he would not consider the motion at that time for further time in which to put in their proof. And the same reasons that have been stated here this morning were stated at that time as to the willingness and readiness of the State to argue the motions. When that was suggested it was replied—although I think Senator Page may have said he was technically ready—yet he certainly suggested that the motions ought to be argued together, and the motions were really put over at the suggestion of Mr. Burr's representative. Further than that, there was a motion made about a month ago, an order to show cause obtained from Judge Lacombe and that came up. That was on the calendar last Thursday and that was a similar motion for additional

time at that time and for an inspection, and that motion was withdrawn and Judge Lacombe, it seems to me, very well suggested the other day, that there was no reason why an adjournment should be given at this time, as he said there were two or three volumes of evidence there that had been taken on behalf of the State in the Gas Investigation and he did not see why some of the time at the disposal of the defendants could not be profitably employed in putting in evidence that was contained in those volumes. Now, all that evidence was given at that time without this inspection of the plants by experts and without the inspection of the books, and if the whole case could have been made up in that way it seems rather
2259 difficult to understand why at least a part of the case could not be made up from such a record. There has not been any statement made here even that anyone except experts on accounts or plants are to be examined; if there are any other witnesses who are to be examined certainly they could be called now as well as later, and in any event it seems to us that the defendants should proceed with their proofs. If their motion should be granted, as to which there may be a good deal of doubt, as that motion has not been argued yet, and if they show good cause later, why, undoubtedly, if they require additional time the Judge will extend it to them.

Mr. PAGE: If the Master please, the statement by Mr. Garver is in many respects correct and in some not correct. Mr. Garver himself made the application for the adjournment, and the ground upon which the motion for the State was adjourned, and that was that the motion papers had only been served upon him or his firm on the 25th. That was the ground that Judge Lacombe stated when he announced that the motion would be adjourned. He said, of course, if the motion papers had only been served on the 25th they should have proper time to reply.

Mr. GARVER: Wasn't that only after Mr. Burr had made the application for the adjournment and during the course of the discussion as to the adjournment?

Mr. PAGE: That was after he got through with Mr. Burr's motion and took up my motion.

Mr. GARVER: And after you had stated you did not think the two motions ought to be argued separately.

2260 Mr. PAGE: I stated the two motions should be argued together, and it was stated we should go ahead and argue ours and then you made the application for an adjournment. I think that is the exact way it occurred.

Mr. GARVER: I didn't make any formal application.

Mr. PAGE: I told the Judge this was not an application to him to extend the time. As our time had not expired I didn't think it proper we should apply for an extension at that time. The Judge then stated that an application for an adjournment should be made to the Master and I stated the Master was out-of-town and if an adjournment was to be granted that I understood from his office that he would probably like to stay out-of-town. The Judge then replied that the Master would be here to-day.

The MASTER: Well, without expressing any opinion at all on the question of this motion to inspect the plant or books, with which I

have nothing to do in its present aspect, it does not seem to me that a case is not made out here for an adjournment of these proceedings before me. If the defendants required for the proper presentation of their case this extension they must necessariiy have known it long before the complainant's case was closed. It was not necessary to wait until the complainants rested and then until the very end of this recess before bringing the motion on for a hearing.

Mr. BURR: Pardon me a second. When you refer to the inspection of the plant do you also refer to the application for an examination of the books?

The MASTER: Both of them. These matters now pending. This motion could have been made, so far as I can see, at any
2261 time during the Summer. There were motion calendars called here every two or three weeks and it seems to me that it is rather late in the day now for the defendants, after the complainants had rested and an adjournment was taken by an agreement of counsel for a long recess of two weeks, to come in here without any warning and ask the Master for an adjournment on account of the pendency of these motions. The fact that they might perfectly well have been made at least a month ago is evident by what has been said here this morning that a motion of a similar character was at one time noticed. I remember a discussion before me about an application to be made to Judge Lacombe at one time when he was passing through town here in the Summer, for this inspection. It seems to me the defendants are at fault for not having pressed such a motion as that if they took it seriously, and I don't see that the pendency of these motions now affords any grounds for an adjournment at this hearing to-day.

Mr. PAGE: The Master may remember that Mr. Mathewson with his usual suavity, has stated every time we have asked him whether they would consent to an inspection of the plant, that he would take that matter up with Mr. Sterling; he didn't really apprehend any difficulty but he would talk it over with Mr. Sterling. The motion that was made and which has been withdrawn—we had to withdraw it that day before the complainants for some reason had noticed it after I had notified both Mr. Garver's office and Mr. Mathewson that we should withdraw that motion almost immediately after it was made.

Mr. GARVER: We didn't put that on the calendar, Senator.
2262 Mr. PAGE: Who did?

Mr. GARVER: I don't know how it got on. At least I have been unable to ascertain that it got on from our office.

Mr. PAGE: It did not from ours.

Mr. MATHEWSON: I didn't put it on surely.

Mr. PAGE: Well, that motion was not a motion for a modification of the injunction but to allow an inspection to be made by the Commission of Gas and Electricity and was not a motion for the inspection of the plants by experts. Now, until the complainants had presented their case and put on their expert witnesses we had no means of knowing what position they would take, whether they were going to, as they did, proceed by a process of a valuation of what it

would cost to reproduce that plant new to-day, whether they were going to present evidence as to what the plant had cost them and what the actual amount of capital they had invested in the plant was, whether they were going to give evidence to show what it would cost to produce a plant to-day that would not be a duplicate of this plant but would be a plant sufficient to economically produce the amount of gas they would produce and sell; so until they develop their case we are not in a position to say as to what examination would be necessary and what kind of an examination. If they had not given the evidence in the manner in which they did the inspection of their present plants would have not been necessary. If they had gone on on either of the other theories of their case, and neither of which I think would have been a more correct theory than that on which they did proceed——

Mr. MATHEWSON: I think the Senator's quotation of my statement is a little inaccurate. What I did say, as I recollect it,
2263 when the request was made, was that I would take the subject up later with Mr. Garver or Mr. Sterling, and that it might be permitted—we might not object. I did say that, but that took place before Senator Page made his first motion, about a month ago, for the right to inspect the books and look at the plant.

Mr. PAGE: It may be that the statement made at that time was of as much value as those made since, but there was one made not later than the day of adjournment.

Mr. MATHEWSON: But nothing more was said on that subject and nothing more definite than was said before you made that original motion.

Mr. PAGE: No, nothing more definite, except the same condition of uncertainty which prevailed.

The MASTER: And there is another suggestion which has been referred to here this morning which seems to me to be very persuasive in this matter. From the papers on this motion for an injunction in this case which have been placed before me it appears here that the proceeding- before the Gas Commission are said to have been of a most thorough and exhaustive character, and it is to be presumed that this legislation which is attacked here in this suit was not lightly or inadvisedly made but some one must have gone sufficiently into the facts regarding this to justify the conclusions which were finally arrived at and embodied in the legislation.

Mr. BURR: But that statement was attacked by the witness for the complain-t company. They claim and testified that it was a partial, hurried and harried examination which did not do justice to them, and they so swore.

2264 The MASTER: The present application is made on behalf of the defendants in this case, and in the affidavits in opposition to the complainant's motion for an injunction the position of the defendants was—it is immaterial now for this purpose what the position of the complainants may be, but the position of the defendants was that the examination and investigation before the Commission was of the most thorough and exhaustive character. Now it seems to me that under those circumstances the defendants are, to say the least, estopped from complaining now that they cannot go

on with something in the nature of evidence to support their side of the case, without any adjournment at this time, pending the decision of these motions. There ought to be enough with these vast volumes of investigations here and records, there ought to be enough for them to put in something to take up the time between now and Friday. I came back to town—that is of course a matter of no great importance, but I came back to town, having taken the trouble to communicate with my office and was advised that both the defendants would be ready to proceed this morning, and I do not see any reason why they should not proceed, at least to some extent.

Mr. PAGE: As far as the statements made in regard to the investigation of 1884 before the Senate Committee, the Gas Company presented in evidence as usual large claims for the value of the plant, and we proceeded upon what we found in the books and the reports of the Senate Committee that preceded us, and that is that the plants had cost about $20,000,000, and they added about $9,000,000 more to it. We had also their sworn tabulations that had been put in before the Tax Commissioners and they offered no other evi-
2265 dence and therefore we took the evidence that was before us and found or decided that they had a plant worth about thirty million dollars. Before the Gas Commission, the complainants here did not produce any evidence as to the valuation of their plant, put no witnesses on the stand; so far as this particular branch of the case is concerned, it has never been brought forth or forward on the part of the complainant at any of the other hearings that have been had and it is new matter. Now, as far as the voluminous record taken before the Gas Commission is concerned, a very large part of that has already been put in evidence, and probably all has been put in evidence that is material to this proceeding, or substantially so, this being a suit and that being an investigation; the investigation not being limited by issues probably more was put in than could be here put in probably, not being limited there by the ordinary rules as to relevancy to the issue, and the rules as to competency and materiality.

Mr. MATHEWSON: May I say before the Master makes a statement that the Senator is, I think, in error in one respect. This investigation by the Senate Committee, of which he was a member and to which he has referred, covered only three weeks; it is so pressed that the Committee were absolutely unable to take any evidence in reference to a good many of the outlying companies in the City of New York, although they wanted to do so, and that we were finally offered an opportunity—by "we" I mean the Consolidated Gas Company,—to present evidence the very last afternoon of the session of the Committee, I think about half past 5 o'clock, and I think
2266 we took about an hour to put on one witness, and that this one witness swore that the value of the plant of the company was at least the valuation shown on the books of the company, and yet he having testified to that and being an engineer familiar with the plant, they took the statement in the tax report, eight million dollars, or only a trifle over half the book value, in arriving at their

conclusion, so that the Senator is mistaken in saying there was no evidence before his Committee as to any valuation.

Mr. PAGE: I meant no valuation put in as you put it in here.

Mr. MATHEWSON: Oh, no, not in detail. We didn't have time.

The MASTER: There is another subject that occurs to me. Now, for instance, assuming the defendants intend to take issue on the valuation of this land as to which Mr. Wheelock was examined at some length, or as to the value of the dock property on which there was a witness called—Mr. Green; or assuming that they proposed to take issue on the views of some of these experts here with regard to the question of regulating pressure—there are several matters of that kind in the case which it seems to me in nowise depend upon the investigation or examination of the plants, and I don't see why counsel cannot proceed with those branches of the case——

Mr. GARVER: And a reasonable return on the value of the property to-day.

The MASTER: If you are not going to concede the correctness of the witness Wheelock's valuation you must intend to meet that and there is no reason apparent to me why that should not have been done, why that could not have been arranged, why you could
2267 not have your real State experts on the stand, because that does not in any way depend on an examination of the books. So on the whole I feel constrained to deny these applications for I do not think you have made out a case, much as I regret to have to deny them.

Mr. BURR: I am prepared to go on now on behalf of the City.

The MASTER: Have you a witness here?

Mr. BURR: Yes.

Mr. PAGE: I will let Mr. Burr proceed with his case because I do not feel that for the safety of the State or that with propriety I could proceed until after these motions are heard and determined.

Mr. BURR: I say I am ready to proceed, but of course, under the disadvantage I have referred to, in not having had the inspection and examination, but I will make the best I can of the present situation.

The MASTER: Take up some of the branches I have indicated that will not depend on your examination of the plant or books.

Mr. GARVER: I would like to suggest what I intimated here a moment ago, if they intend to meet the evidence which we gave of the banking experts as to the return on the investment of this kind, that is something that certainly could be done without an inspection of the plant and books.

WILLIAM D. MARKS, called as a witness in behalf of the defendants, being duly sworn, testified as follows:

Direct examination by Mr. BURR:

Q. You might tell us something about yourself, what your profession is?

2268 A. I am a consulting engineer and statistician, making a specialty of gas and electricity. I have had a good deal of experience, more particularly in the direction of statistics of costs.

I have attended all of the meetings in these hearings, also before the State Gas and Electricity Commission, and listened to the testimony. I have spent a good deal of time in a careful study of the reports of the Legislative Committees of the State of New York for 1885 and 1886, and the report of the Stevens Commission of 1905.

Q. And the testimony of the Stevens investigation?

A. The testimony also, and have been present at nearly all of the meetings here.

Q. And have you read all the testimony here?

A. I have read all the testimony here carefully. I was graduated——

Q. Wait a moment. Have you read the testimony which was given before the Gas Commission?

A. I have read the whole of the testimony and have analyzed it carefully in the case of the Gas Commission.

Q. As I understand it, you have carefully read the testimony given before the committee appointed in 1885 and the committee appointed in 1886 and the committee appointed in 1905 and the Gas Commission, as well as the testimony presented and adduced here before the Master?

A. I have.

Q. Proceed, please.

A. I was engaged by the Corporation Counsel in January, 1906, and I have practically given my undivided attention to the analysis and study in connection with the cost of gas in connection with this case, and also looked up authorities in many other cases of more recent date. I was graduated by the Scientific Department of Yale College in 1870, taking the degree of Bachelor of Science, and in 1871, after a year of post graduate study, was given the degree of Mechanical Engineer. During a portion of the year follow-
2269 ing I pursued my engineering studies in Europe. In 1871 I entered the employ of the D., L. & W. Railway as an assistant of the division engineer, after which becoming transit man on the Chicago & Northwestern Railway. In 1872 I was appointed resident engineer and accountant for the contractors building the Laclede Gas Works in St. Louis Missouri. I was the subordinate of William Farmer, a gas engineer of New York City, who furnished all the drawings and specifications for these works, and it was my business to care for the execution of the work from them. I remained with the Laclede Gas Company until their works were completed and put in operation, and then took up the building of railway locomotives and machinery and of blast furnaces and machinery as a contractor until 1876, when I was appointed instructor in mechanical engineering at Lehigh University upon the recommendation of the Faculty of Science at Yale. From 1876 until 1887 I held the chair of the Whitney professorship of dynamical engineering at the University of Pennsylvania, giving instruction in engineering and in mathematical study of force and motion, including electricity. In the year 1884 I interrupted my service as professor on leave of absence to become superintendent and organizer of the scientific work of the

International Electrical Exhibition at Franklin Institute at Philadelphia. This was the first of all the electrical exhibitions.

In 1885 I was Chairman of the Executive Committee of the Franklin Institute, which instituted and completed its well-known standard series of experiments on steam and steam engines, boilers, electric dynamos, incandescent and arc-light illumination. Though having general charge and arrangement of all this work, I was specially in charge of the details of electrical measurement and of photometric tests. In 1887 I relinquished my position in the University
2270 of Pennsylvania to become engineer to the Philadelphia Edison Electric Company, and designed and built for that company a ten thousand horse-power electric light station, it being at that time the largest individual station in the world, and the first one built of that size. In 1892, having completed the engineering construction and put it in operation, I was made President of the Philadelphia Edison Electric Company, and reorganized its business, earning and paying an actual dividend to the stockholders of 53 per cent. in four years. In 1896 the Edison Company of Philadelphia sold its property at a profit of one million dollars, thus paying its stockholders 103 per cent., dividends included, on its investment of two million dollars.

In 1899 the Edison General Company of New York City appointed me engineer-in-chief, and the *the* then president, Mr. Henry Villard, assured me of their intention to shortly make me president, but after a few months I preferred returning to Philadelphia. Since 1896 I have given my attention to construction of electrical apparatus and practiced as an engineer, being connected as manager, director or president with some fifteen or sixteen electric light and electric railroad companis, undertaking for them, as was required, either the actual construction of new work, the operation of going work and the organization or reorganization of their finances and accounting department. At all times during my technical work as an engineer, I have given a great deal of attention to the finances and accounting departments of all the corporations with which I have been connected as an engineer or manager or president. At all times during my technical work as an engineer I have invariably kept accurate account of costs, not only of construction, but also of operation. I have been in charge of affairs of large corporations and am entirely
2271 familiar with their methods of keeping their books and accounts, and have made special studies of a very large number of them. Of late years I have been engineer and built and operated gas works in Durham, North Carolina, and reorganized and operated gas works in Fostoria, Ohio. From 1876 I was regularly employed as expert engineer and accountant for gas works all over the United States, in which Mr. Arthur W. Benson, president of the Brooklyn Gas Light Company, and his associates were all very largely interested, and I have made many expert reports to them on their interests and on their gas works.

Besides many scientific papers and books on engineering, I have written a book on Finances of Gas, Electric Light and Power Enterprises, which has reached a third edition, selling over 5,000 copies

within the last two years. I am an honorary member of the Franklin Institute of Philadelphia for scientific services rendered, and was for some time chairman of its committee on science and the arts; I am a member of the American Philosophical Society; a Fellow of the American Association for the Advancement of Science; a member of the American Institute of Electrical Engineers—I was a charter member of that organization; I am a member of the American Gas Light Association and also of other technical associations, and I have also been offered many elections to technical societies, which I have declined for lack of leisure.

Q. Now, have you for some years past given special attention to investigations relating to the capitalization and operating expenses of quasi-public corporations?

A. I have made a study of them for two or three years past to the exclusion of almost all else.

Q. And that has enabled you to become familiar with the
2272 kind of investigation that is absolutely necessary before you could make an independent or absolutely trustworthy report?

A. It has.

Q. And what does such an investigation consist of, in your judgment, as an absolute prerequisite before you can make an independent and trustworthy report?

A. Assuming that both parties to an investigation of the value and also of the profitableness of a gas works are acting in entirely good faith, it is usually customary, and I have never known it to be refused, that a——

Mr. MATHEWSON: I object to that and move to strike it out. It is not an answer.

The MASTER: He may go on.

Mr. MATHEWSON: I except.

The WITNESS: That careful examination of the work shall be made by a duly qualified expert or experts, both with a view of learning its present condition and its future possibilities. This is generally followed by a careful inventory, giving the actual structural cost of the works and properties, also a present valuation of them. In addition to this, I have never know-, where both parties were open in their dealings, such a thing as a refusal of an examination of all vouchers and of all check stubs or checks themselves, if returned, covering the question of the actual structural cost of the work. Referring now to the question of operation of works, the inspection of the works is usually made with a very careful regard to their condition, the question being whether or no these works are fairly up-to-date and in fairly good repair being an important question and this in turn is followed by a very careful investigation of the actual cash costs of the production of gas or whatever other manufactured product may be for sale. Perhaps, however, the most
2273 important point in connection with such an investigation as this lies in the future possibilities of the quasi-public corporation; that is, as to the amount which can be hoped for in the future in the way of sales and, consequently, of profit.

Q. When you speak of vouchers and checks, did you mean also books showing the cost of these structures and plants and apparatus and the cost of operations?

A. It is impossible to classify vouchers and checks without corollorating them exactly with the books and with the entries in the books, item by item and detail by detail.

Q. You have not had any such investigation or examination of the books of the Consolidated Gas Company?

A. I have, on personal application, been refused by Mr. Addicks an opportunity even to make a cursory examination of the works.

Mr. MATHEWSON: I move to strike that out as not responsive and improper. The question was whether he had had an opportunity to examine the works.

The MASTER: It is not necessary for you to undertake to sum this case up on the stand. If you will, just answer the question. You were asked if you had made such an examination. You either have or you have not.

Q. You have not made an examination of the books of the Consolidated Gas Company, nor have you made an examination of the plants of the Consolidated Gas Company?

A. I have not.

Mr. MATHEWSON: I want to say we would immediately take issue with the statement——

The MASTER: There is no need of taking up the record with this bickering. If the thing is to be taken before the Court, the Court will decide.

2274 Q. Did you ask for an inspection or examination of the plant?

A. I did.

Mr. MATHEWSON: Objected to as immaterial and irrelevant. He is not the defendant, nor would such a request properly come from him, and we would not consider it, perhaps, if it did.

Q. Did you ask, representing the Corporation Counsel of the City of New York, any officer of the Consolidated Gas Company for leave to inspect its plants?

Mr. MATHEWSON: Objected to on the same grounds.

The MASTER: I do not see how this is at all material to the defendants' case.

Mr. BURR: We are going to continue, of course, and we want to show, as far as this witness is concerned, having a knowledge of what is absolutely necessary before a correct report can be made, that he sought to make this investigation and inspection.

The MASTER: You have shown that he did not make it and why he did not make it, and it appears in long detail this morning about these motions you are making before the Court.

Mr. BURR: I want to show as a careful expert he used every means he could to make such an examination.

The MASTER: You are entitled to have your record full enough to

protect your rights with regard to this point. The mere fact of the pendency of these motions is sufficient for that. When you go beyond that, it is wasting time.

Mr. BURR: I want to get on the record the fact that he made a request for the inspection and it has been refused.

2275 Mr. MATHEWSON: We understand no such request has been made——

The MASTER: That is the point. You opened up all these matters——

Mr. BURR: I do not want to appear captious about this, but in view of what Mr. Mathewson has said I will ask him this question: Have you not refused an opportunity to the City of New York to make such an investigation?

Mr. MATHEWSON: I object to that question.

Mr. BURR: I am asking you. Have you not here refused the City of New York——

Mr. MATHEWSON: I am not on the witness stand. You have asked the witness whether he has not made a request of somebody. I say we do not understand that any such request was made by him. As to whether you have made such a request, that is another proposition, which I do not intend to answer.

The MASTER: There is another thing! I have repeatedly said that experts should have an opportunity to examine the books, and so far as any request that has been made of me, the books have been brought down, with the exception of some large payrolls. If any complaint had been made to me that experts were not having sufficient opportunity to examine those books up there while cross-examination was in progress, I should have taken such steps as I was able to, to see that they had such opportunities. It was fair that they should, and that has been my position from the outset.

Mr. BURR: We will have to stand on the record as it is made, I suppose.

The MASTER: I will sustain the objection to this line of examination.

2276 Mr. BURR: Under the rule I presume he may answer?

The MASTER: Yes.

(Question read by stenographer.)

A. I did.

Q. And was that request denied?

Same objection.

Same ruling and exception.

A. It was.

Q. Who was it?

Same objection.

Same ruling and exception.

A. Mr. Addicks and Mr. Carter.

Q. Mr. Addicks is the Vice-President?

Same objection.

Same ruling and exception.

A. And Mr. Carter is the Secretary.

Q. And, now, have you made a careful study of the exhibits that have been produced in evidence here by the Consolidated Gas Company?

A. I have.

Q. And have you from such study arrived at any conclusion as to what effect the passage and enforcement of the laws regulating the price of gas to seventy-five cents to the city and eighty cents to the general consumer will have upon the operation of the Consolidated Gas Company?

A. I have made a careful and laborious investigation on that point.

Q. And will you give us the result of such investigation?

Mr. MATHEWSON: I think that question is too broad, Mr.
2277 Master, and I object to it on that ground as calling for conclusions which really it is the prerogative of the Master and the Court to draw.

The MASTER: Is not that a little wholesale, Mr. Burr?

Mr. BURR: I will go into it in a little more detail if Mr. Mathewson prefers me to, but I thought we would save time, and the period is limited, but if he wants me to ask question by question I will ask them.

Mr. MATHEWSON: I do not want you to put the witness on and ask him what he thinks is the effect of producing a revenue lower than the company is entitled to. You practically put that question.

The MASTER: I will allow you, Mr. Burr, to bring out a very general question, and I don't expect you to cross-examine your own witness as to the details of his conclusions; but it seems to me, if you are going to ask what he figures out, for instance, the cost of gas ought to be on the data he has tabulated, or testimony of that sort, as it now is, you simply ask him what is the effect of this legislation. That is a little too broad.

Mr. BURR: Upon the output of gas of the Consolidated Gas Company. I was proceeding to ask him in a little more detail.

The MASTER: You can ask him what the cost is which he figures out, or any such question of that kind. Ask him a question which gets at the crux of the whole thing.

Q. And you made a careful investigation of the production of gas by the Consolidated Gas Commpany since 1884?

A. I have.

2278 Q. And of the sales of gas since the same year?

A. I have, year by year.

Q. And have you put that in the form of a record of graphic record?

A. I have.

Q. Is that the paper which I now hand you?

A. Yes.

Mr. MATHEWSON: Will you let us have one of these??

Mr. BURR: Yes, with pleasure.

Q. Is that the paper which I now hand you?

A. It is.

Q. And as the result of such investigation do you find that the enforcement of the law, making the price to the City of New York at 75 cents and the price to the general consumer at 80 cents, will increase or diminish the sales of the Consolidated Gas Company?

Mr. MATHEWSON: Just a moment. If the witness were asked whether in his opinion the sales would increase or decrease, I do not think I would object to the question, but it seems to me in the form it is put, I shall have to object to it.

Mr. BURR: So as to make it unobjectionable, I will ask him this question:

Q. Will the sales of gas, in your opinion, increase or decrease?

A. They will greatly increase.

Q. Will you tell us the method by which you arrived at that conclusion?

A. Mr. Mathewson, there are a great many figures in this. It is not a long matter, of which I have made a note, and I can abbreviate what I have to say very much by reading from my notes and turning the figures over to the stenographer as I do so.

2279 The MASTER: There is no objection to that, I suppose.

The WITNESSS If the price of gas is reduced to 75 cents to the city and to 80 cents to the private consumer during the year 1907, the gross receipts from the sales of gas will probably amount to 15,342,981,000 cubic feet at 80 cents, or to $12,274,385.18, as against the following for the year 1905, for the Consolidated Gas Company:

By Mr. MATHEWSON:

Q. What year is this, 15,342,981,000?

A. 1907.

Q. Your testimony is that in your judgment it will increase to that amount, not by that amount?

A. Yes, to that amount.

By the MASTER:

Q. If you will allow me to interrupt, Doctor, where does that result appear on this chart?

A. On the chart in the year 1907, the Island of Manhattan shown at the top, the total sales of the four companies, the Consolidated Gas Company, the Standard Company, the New York Mutual Company and the New Amsterdam Gas Company will amount to 22,569,845,605 cubic feet, of which the Consolidated Gas Company, speaking accurately, would probably sell 15,342,981,000 cubic feet, or about 68 per cent.

By Mr. BURR:

Q. What do you estimate the population of the Borough of Manhattan will be in 1907?

A. The estimated population of the Borough of Manhattan in the year 1907 will be 2,217,295. You will find it at the top of the blue print.

Mr. MATHEWSON: What date in 1907.

The WITNESS: December 31st.

2280 Q. And what will be the per capita consumption of gas at 80 cents?

A. 10,179 cubic feet, about.

Q. From your study into the previous history of the gas companies now operating in the Borough of Manhattan, what has been the effect in a reduction in the price of gas?

Mr. MATHEWSON: The witness takes the output of gas for each year and he is asked to state from that what the effect of the reduction of gas is. Assuming by that question that the increase in the sales of gas has been all due to reduction of price, whether it is or not is a question of argument. The gas war and the use of gas for fuel due to the strike, all those things being considered, it seems to me the question is not a proper one, the way it *us* put.

Mr. BURR: If there is such a thing that reduction of price means greater consumption, that can be shown by this witness.

The MASTER: He can testify to it as his opinion on that subject from his familiarity with the general questions in regard to gas distribution and consumption and from his study of these data which are in evidence.

The WITNESS: Under average conditions the reduction in the price of illuminating gas or heating gas always results in a larger output per capita and, consequently, a larger total output for the station.

Q. Now, will you give us more in detail, Dr. Marks, what is shown in your opinion by this table which you have prepared here and which you have now before you?

A. State's Exhibit H for the year 1905, Sales to private consumers, 12,884,637,789 cubic feet, to $12,872,269.88.

2281 From Complainants Exhibit 103:

Metered Service to public buildings		127,712,700 c. f.
Arbor Lamps		32,600 c. f.
Gas for public or streets lamps (Estimated)		270,779,679 c. f.
Total		398,524,978 c. f. at
90c. per M. c. f. or	$358,672.48	
Added to	12,872,269.88	
Gives a total revenue from gas of	$13,230,942.36	
If from this we subtract	12,270,385.18	
We have a diminution of gross revenue from gas of		$956,557.18

instead of the alleged diminution of 20 per cent. of $13,230,942.36, stated to be or appearing to be $2,646,188.47. The figures leading to this result——

By Mr. MATHEWSON:

Q. That is for 1907 that you are assuming?

A. Yes, for 1907.

By Mr. BURR:

Q. How do you arrive at that result, Doctor?

A. As this involved immense amounts of both gas and of money, in order to be as nearly absolutely impartial as possible, it was necessary for me to trace the history of the output of gas and the prices of gas beginning at a point when electricity first put in an appearance in 1888 as a serious competitor. That was the time
2282 at which it really began to make some inroads on gas. And that is shown by means of a line shown on this blue print, giving the actual output per capita each year, beginning in 1888 and giving the price at which the gas was sold, and also showing at the right hand side of that blue print all the gas that was burned on the island of Manhattan. You see the island of Manhattan in the year 1905 burned something like 19,540,000,000 cubic feet of gas, while the whole State of Massachusetts burned a little over ten million cubic feet, only about one-half, and this elaborate work was due to the enormous responsibility connected with an opinion on the problem. The figures leading to this result are obtained as follows:

For the calendar year 1905 the total sales of gas of the Consolidated Gas Company amounted to 13,283,164,000 cubic feet and the total sales of all companies on the island of Manhattan amounted to 19,540,243,000 cubic feet, showing the Consolidated Gas Company to have sold 67.98 per cent. of all the gas on the island of Manhattan, and making its total sales, 15,342,981,098 cubic feet, with the same ratio in 1907.

To learn how the probable gross revenue from the sales of gas of $12,274,385.18 is obtained, we are obliged to refer to a graphic record of the sales of gas herewith presented.

Mr. BURR: One moment. I offer this in evidence.

Mr. MATHEWSON: Before it is offered in evidence, I would like to ask a few questions in reference to its origin, to see what these figures mean, I would like to understand them.

Mr. BURR: You may proceed.

By Mr. MATHEWSON:

2283 Q. Where did you get your record of sales for the year 1905 of the other companies than the Consolidated Gas Company?

A. Referring to the key at the [illegible] of the blue print, T is the testimony before the Gas and Electricity Commission, 1905, 1906; B-D is Brown's Directory of Gas Works; E is estimated.

Q. Was the testimony before the Gas Commission for these other companies given covering the output of gas for the calendar year 1905, or only for the nominal year ending October 31st, 1905, and which figures are these which you have used?

A. Taking the year 1905, if you like, the Consolidated Gas Company, 13,283,164,000 cubic feet is testimony gas?

Q. No. I am not asking you that. I am asking you whether the testimony before the Gas Commission was for the calendar year 1905 or for the nominal year Oct. 31, which figures you have taken?

A. The calendar year 1905 is used in the case of the Consolidated Gas Company.

Q. What about the other companies?

A. In the case of the Standard Company it is taken from Brown's Directory. In the case of the New Amsterdam Company it is estimated. In the case of the New York Mutual Gas Company it is taken from Brown's Directory.

Mr. BURR: What is Brown's Directory?

Mr. MATHEWSON: Just a moment. I do not understand these columns and I wish you would explain them.

Mr. BURR: He is going to explain it after I offer it in evidence.

Mr. MATHEWSON: I know, but I want to know what it is first.

Mr. BURR: I will proceed with my examination and let him go on and testify, if you object to its going in now.

2284 Mr. MATHEWSON: I certainly do object to its going in. The statements here are not statements of facts as to the output of gas of other companies. Some are estimates and some are from Brown's Directory, which is not in evidence in any proceeding I have ever heard of. I would have to object to this on that ground alone.

The MASTER: I think the best way would be to let this go in and you can cross-examine if you please about it. I do not see that you are going to gain anything by objecting to it now.

Mr. BURR: And it will simplify his examination.

Mr. MATHEWSON: I think I should take the objection because I do not think that statement from Brown's Directory which appear on statements which purport to be statements of fact are evidence at all.

The MASTER: That goes to the question of the soundness of his conclusions, as to whether they are based on facts that are in evidence here or whether they are not, but I think as showing the basis of the witness' conclusion as to which he has testified, that this diagram had better go in now and you can cross-examine about it.

Objection overruled.

Mr. MATHEWSON: Exception.

Mr. BURR: Adopting your suggestion I offer it in evidence.

Paper received and marked City's Exhibit 46.

By Mr. BURR:

Q. Now then as I understand you, Dr. Marks, this chart, marked City's Exhibit 46, of this date, shows the record of sales of gas
2285 per capita, and also the record of total sales of each and every gas company furnishing the Island of Manhattan.

A. That is exactly the case.

Q. Beginning with the year 1888 and ending with January 1st, 1906.

A. It presents to the eye the record of the sales of gas per capita and also the record of total sales of each and every gas company furnishing the Island of Manhattan beginning with the year 1888 and ending January 1st, 1906.

Q. Why did you select the year 1888?

A. Because it was at that time I knew from my personal experience that electric lighting was becoming a serious factor on the

Island of Manhattan. I was engineer-in-chief of the Edison General Company in the year 1889 on the Island of Manhattan for a brief period.

Q. And electric lighting has from that time shared the field of public lighting with gas, has it?

A. It has.

Q. You may proceed to explain this chart?

A. There is still another reason for making this a record of the sales of gas on the Island of Manhattan itself rather than referring to precedents derived from other companies in other localities, in giving an accurate prediction on the effect of the reduction in the price of gas in the Island of Manhattan. New York is not comparable, so far as Manhattan is concerned, with any other city in existence, in its area, or in the character of its business and residence structures, and therefore one might easily be misled by using data derived from other cities. The evidence as to sales of gas heretofore give- by Vice-President Addicks or by President Alexander C. Humphreys has not been founded on the broad basis of the consumption of gas by all the inhabitants from all the companies selling gas on the Island of Manhattan. Nor have these gentlemen taken up and discussed the effect of the reduction made in the price
2286 of gas in the years 1899 and 1900, which would throw a clear light on the probable response in increased gas sales per capita, which will result upon fixing the price of gas at 75 cents to the City and at 80 cents to the private consumer of Manhattan. Had they founded their reasons upon the broad basis of a consideration not only of the Consolidated Gas Company, but also of the Standard, New York Mutual and the New Amsterdam Companies, and then traced back the history of the sales of gas per capita at the various prices fixed, they would concur with me in the belief that a reduction of the price of gas to 75 cents, and 80 cents will in all human probability be largely profitable to the Consolidated Gas Company, as well as beneficent to the consumer of gas.

Mr. MATHEWSON: No, Mr. Master, I must object to this philosophical discussion and summing up. It seems to me that this is utterly improper. I do not know, if we followed the same course, how long it would take us to deliver our addresses.

Q. Now refer to the chart in detail, Doctor?

A. Referring now in detail to the chart, and to the point of its concurrence with the testimony at page 1924 we have the following comparison with the prices stated by the Consolidated Gas Company.

Q. You may read those.

A.—

1888	Consolidated	Gas	Co.,	$1.2566	.....	Chart,	$1.26
1889	"	"	"	1.2562	.....	"	1.26
1890	"	"	"	1.2563	.....	"	1.26
1891	"	"	"	1.2556	.....	"	1.26
1892	"	"	"	1.2549	.....	"	1.26
1893	"	"	"	1.2547	.....	"	1.25
1894	"	"	"	1.2550	.....	"	1.25
1895	"	"	"	1.2552	.....	"	1.24

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1896	"	"	"	1.2556	"	1.23
1897	"	"	"	1.2213	"	1.20
1898	"	"	"	1.1518	"	1.15
1899	"	"	"	.8456	"	.85
1900	"	"	"	.8246	"	.82
1901	"	"	"	.9994	"	.98
1902	"	"	"	1.0004	"	.99
1903	"	"	"	1.0006	"	.99
1904	"	"	"	.9998	"	.99
1905	"	"	"	1.0202	"	1.00

The figures for the total sales of gas given on the chart are in the case of the Consolidated Gas Company taken from the testimony and the key letter is T. The total gas sales of the Standard Gas Company are taken from the testimony before the Gas and Electricity Commission, and from Brown's Directory of Gas Works; the key letter of Brown's Directory is B. D. The total gas sales of the New Amsterdam Gas Company are estimated, an allowance being made for its delivery to the East River Gas Company in Long Island City, and the balance being charged to the Island of Manhattan; the key letter for estimates is E. The total sales of the New York Mutual Gas Company are either taken from the testimony or from Brown's Directory.

Referring to the population, it is taken from the United States census of 1890 and 1900, and the State Census for 1905, as indicated on the map. All of the intermediate populations are necessarily estimated, and these estimates are carefully checked from a pamphlet published by the State for election purposes, obtained from the Secretary of State, and from the Board of Health Statistics as to the population furnished by Commissioner Darlington.

Q. How do you obtain the output per capita for each year?

2288 A. The output per capita for each year is obtained by dividing the total gas sales for each year by the population of it. It is of interest to observe this output per capita as it forms a very important factor. In the year 1888 it appears to be 5,626 c. f., and this steadily rises with gas at $1.26 to the year 1893 when it reaches 6,381 c. f. In 1894 it appears to fall off slightly to 6,344 c. f., and again in 1895 falls to 6,321 c. f., rising again in 1896 to 6,370 c. f. In 1898 with gas at $1.15 it rises to 6,595 c. f., and again with the advent of the reduction of prices about May 1st, 1899, it rapidly rises to 8,128 c. f. for the year 1900.

It will be observed that in the gas war, during which the Consolidated Gas Company, New York Mutual Gas Company and the Standard Gas Company reduced the price of gas to sixty-five cents and the New Amsterdam Gas Company reduced the price to fifty cents, the sales per capita rose with extraordinary rapidity, although the reduced price of gas extended only from May 1st, 1899 to about May 20th, 1900. The average reduction in the price of gas during the two years 1899 and 1900, was thirty-three cents and the sales per capita increased 1,533 c. f. Dividing this by thirty-three cents, we can see in a rude way that the sales per capita increased 46.46 c. f. in

these two years for each one cent of reduction in selling price. Upon reflection it is obvious that the raising of the price of gas to one dollar in 1900 would be likely to put a stop to the increase of the sales per capita and it did so.

Q. Is that verified by the chart?

A. It is verified by the chart, which shows that during the year 1900 the sales per capita 8,135 c. f. remained at a standstill, and in 1901 the sales per capita steadily increased until 1904 when it reached 9,426 c. f. In 1905, however, we find that the sales per capita appear to have reached 9,250 c. f., having fallen back
2289 from the sales of 1904 by an amount of 176 c. f. On page 1782 of the testimony Vice-President Addicks corroborated the statement of Alexander C. Humphreys which is as follows:

"To-day, if my information is correct, and I believe it is, New York is selling more per capita than any other city in the world. It is selling 9,200 cubic feet annually per capita. A little less than that, about 9,150 c. f. I think it is. London is selling somewhere between 8,000 and 8,500 c. f."

And the statements of these two gentlemen very closely corroborate my own figures, which are sales per capita of 9,250 cubic feet. From what goes before it appears probable that these gentlemen have fully corroborated the figures of this graphic record of the sales of gas——

Mr. MATHEWSON: I move to strike that out—"from what goes before it appears probable." Whether they have or not appears from their testimony, and I do not think the witness should state that fact.

The MASTER: That of course is objectionable, but, Mr. Mathewson, are we not going to save time by letting the doctor, who has prepared this careful statement of his position, proceed with it?

The WITNESS: It appears probable that these gentlemen have fully corroborated the figures of this graphic record of the sales of gas, which has been worked out independently and checked up by two of my assistants.

Q. And yourself.

A. Worked out by myself independently and checked up by two assistants.

Q. What degree of accuracy do you claim for these figures?

A. With an accuracy sufficient for all commercial pur-
2290 poses. The facts in regard to the increase of the sale per capita appear to have been correctly related on the chart up to the year 1905. We have learned from the period of the gas war, 1899-1900, covering about one year, that each one cent of reduction in the average price of gas corresponded to an increase of 46.46 cubic feet. It would appear to be justifiable if we assume a period of two years, extending from January 1, 1906, to January 1, 1898, which is just the same as the period of the gas war, to infer that a reduction of 20 cents or from one dollar to 80 cents in the price of gas would produce an increase in the output per capita of about twenty times

46.46 cubic feet or 920 cubic feet, making the average sales per capita for the year 1907, 10,179 cubic feet as shown on the chart.

In order that this sale per capita may be reached, it will be necessary that during a period of twelve months out of the two years, the price of gas should be held at 80 cents.

By the MASTER:

Q. What do you mean by that, twelve months out of the two years?

A. The gas war in itself occupied the last half of 1899 and the first half of 1900, and the period at which I can get figures began at the beginning of 1899 and ended at the end of 1900, and for that reason I dared not venture on a prediction beyond two years, that is, to the end of 1907. Since the end of 1905 to the end of 1907 is exactly the same as the end of 1898 to the end of 1900——

By Mr. BURR:

Q. Having reached that point of the probable sales per capita for the year 1907, assuming the selling price to be 80c. for twelve months, what more do you find it necessary to do?

2291 A. It will be necessary to take a broader view of the conditions and factors affecting the sale of gas than has yet been given to them. The increase in the total sales of gas in any city appears to increase with the population, whatever the price of gas may be, and therefore a growing community will furnish a growing business to a gas company, even though the citizens of that community may regard the price fixed for gas as extortionate.

On the other hand, it is quite easy by fixing the selling price of gas at a rate satisfactory to any community, by the introduction of gas stoves. Welsbach burners and careful service, to considerably increase the sales of gas in a community which has ceased to grow in population, and this is done by increasing the output per capita. If, however, the population of a community is increasing, and at the same time the wise and energetic effort of the gas company also increases the output per capita the gas corporation will be so very fortunate as to realize a very great increase, both from the increased population and the increased sales per capita.

All our experience goes to show that the most lucrative field for the establishment of gas works is in a densely populated metropolis in which a vast business is being transacted, and the manner of living is luxurious, and in these qualities the Borough of Manhattan, in the City of New York, excels all other cities in existence with the consequent result of selling more gas per capita than is possible in any other metropolis in the world.

By the MASTER:

Q. May I ask a question. What is the purpose of this collection of figures down in the lower left hand of the diagram?

2292 A. The total output of each one of the four companies is arranged under columns headed by their names.

Q. Well, total output for what period?

A. For one year and each year. Beginning on the right hand side the four companies are arranged in four columns; following them down, these four columns are broken and shifted to the left hand side, having exactly the same heading, merely as a matter of convenience to allow the laying down of the line of progress of the output per capita of gas as it chanced to come from these figures. To the extreme right headed, "Approximate," there are four columns which give total results. These it is convenient to keep in one column, going down the extreme right.

By Mr. BURR:

Q. With this statement of the actual facts of the experience of the Borough of Manhattan, you are able to hazard the prediction as to the sales of gas per capita and total sales of gas for 1907?

A. I can. The population of the Island of Manhattan during the five years from 1900 to 1905 has increased at the rate of 52,457 per year, and we can therefore safely predict an additional population of 104,914, for the year 1907, making the total population when added to that of 1905, 2,217,295, on the Island of Manhattan. Multiplying the sales per capita, 10,179 cubic feet by this population, we obtain a total sale of gas for the Island of Manhattan, during the year 1907, with the price of gas at 80c. or a little lower, of 22,569,845,805 cubic feet, which at 80c. per 1,000 cubic feet, would yield a revenue to the four companies supplying Manhattan Island of $18,055.877.

Referring to the chart for the data of 1905, we find the sales of gas for the Consolidated Gas Company to be 13,283,164,000 cubic feet, and the total sales of gas for the whole Island of Manhattan to be 19,540,243,000 cubic feet, so that the Consolidated Gas Company did sell 67.98 per cent. of all the gas sold in the Borough of Manhattan. The total revenue from the sales of gas in the Borough of Manhattan for the year 1907 should be about $18,055,877 and 67.98 of this is $12,234,385.18, and the diminution of revenue from the sales of gas by the Consolidated Gas Company as compared with 1905, ought to be about $956,557.18, instead of $2,646,188.47, as was stated by the complainant, by inference.

2293

The question of the accuracy of these figures will at once arise, and it is proper to say that it cannot be claimed that they are given with scientific accuracy, but it can be claimed from these figures that they are sufficiently accurate and quite as accurate as figures ordinarily used for commercial purposes, and that they possess the decided advantage of being based upon the actual history of the sales of gas on the Island of Manhattan as far back as the year 1888, and therefore include not only the competition due to a steadily growing electric lighting business, but also the record of the great increase in sales per capita due to a lowering of the price of gas to consumers during the years 1899 and 1900. In fact, the advent of electric lighting appears to have stimulated the consumption per capita of gas by stimulating the desire for more brilliant illumination.

It will be noted that I have ventured upon a prediction only of two years from January 1, 1906. That is because I have only the record of the effect of a reduction in the price of gas for two years. The interval during which this reduction in the price of gas was in actual operation was about twelve months in the two years, and if the price of gas is put at 80c. in 1907, it is fair to assume that a proportionate increase in the output per capita and in the
2294 total output of the Consolidated Gas Company to about 15,340,000,000 cubic feet will occur, if we assume that the four companies now engaged in lighting Manhattan share pro rata in the increased sales due to a uniform reduction in price.

Recess until 2.15 P. M.

After Recess.

Mr. BURR: I omitted to say this morning that with regard to the franchises, the gentleman representing the Company, and the gentleman representing the corporation counsel are still going over those documents and as soon as they have finished I will make my motion with regard to those.

Mr. MATHEWSON: I wish to say, Mr. Master, in view of the motion that has been made, and the statements made this morning by counsel, that the first motion for leave to inspect the plants was withdrawn as stated. The second motion was made in my absence—I have only returned this morning and knew of it this morning. I stated to Senator Page before the first motion was made that it quite likely would be necessary to make a motion to examine the plants because while we thought there was no power in the court to order it, I thought we might consent to it, and I have now conferred and am in a position to say that so far as the plants are concerned, that the defendants' proposed witnesses may examine the plants, beginning to-morrow morning if they please, without their motion, and this conclusion is reached wholly regardless of the fact that
2295 the motion was made, because the suggestion was made and my statement to Senator Page was made before any motion was made. As to the books, as your Honor said, those that have been requested have been produced and any other books pertinent could be no doubt called for and I think counsel for the defendant will conclude that that portion of their motion is not profitably pursued. However, as to the plants I have made the statement.

Mr. BURR: I am glad to hear the statement made by Mr. Mathewson and that he has now arrived at that conclusion. He will remember it is sometime ago that he and I spoke about the matter and he said he would see me and talk on the inspection of the plant later. I never got any definite suggestion or statement from him until just this moment.

Mr. MATHEWSON: I said I would consider it later and I would inform you and I have so done. No request was made to counsel for complainant before either of these motions was made to state finally whether we would permit an examination of the plant.

Mr. BURR: I beg your pardon. I refer you to the index of the case so far, and on the first page you will find the heading "Accounting, suggestion of Mr. Burr, Page 9," and "inspection of plants, suggestion of Mr. Burr, page 9." That was the first thing we did, before we started in to take the testimony.

Mr. MATHEWSON: Yes, and I said we would consider it and I would take this matter up.

Mr. BURR: And now you have taken it up.

Mr. MATHEWSON: Yes, sir.

Mr. KIRBY: May I ask if that permission carries with it the furnishing to the defendants of a copy of the inventory as pre-
2296 pared by Mr. Mayer? The testimony, as you will remember, was based upon that inventory and is in such shape as to make it a practical impossibility for the defendants' experts to work with it, and would either mean a preparation of an inventory from that or the examination of plants aided by the testimony, which would take many weeks; or if a copy of the inventory as prepared by Mr. Mayer, (and as you will remember, he brought it in typewritten form,) was furnished to the defendants, that is without any valuations thereon, it would materially aid them in their inspection and appraisal thereof and would, based upon such information as I have had from our experts, save not days but weeks in their examination and appraisal.

Mr. MATHEWSON: I don't know as to that. That inventory is not ours and was not made by us. It is the personal property of Mr. Mayer. I don't see how I could undertake to furnish it. In the second place counsel for the defendants had full opportunity to go into such details as they chose on his cross-examination, so I could not answer that.

Mr. KIRBY: Well, we make that request and inasmuch as this motion is to be argued on Friday it would mean much longer time to make an examination and appraisal if it were not furnished to us than if it were. And as far as not being the property of the Consolidated—I think we will find in the record and if not in the testimony I think it was stated here that at last the complainant had a complete inventory of its works and apparatus and that it was now a record and part of the books and of the information of the company.

2297 Mr. BURR: I join in the request because it is undoubtedly the fact that if furnished with an inventory it will save the time of the experts that we will have to examine the plants, and for that reason I hope that the company will see its way clear to furnish us with a copy of it.

Mr. KIRBY: And I might further say, Mr. Master, that inasmuch as this motion was adjourned until next Friday, certain engineers whom we have retained for this matter have been informed that no opportunity, if it were, could be given them until a week from today to make that inspection, and therefore they are not in the city and could not go into the work to-morrow under this permission which has now been granted us.

Mr. MATHEWSON: That is your affair, Mr. Kirby, with your engineers. You should have made your motion long before if it was necessary to make a motion.

Mr. KIRBY: I am simply speaking for the moment and not as to what might have been done.

Mr. MATHEWSON: As to the inventory, I should personally have some objection to giving it in the form that it is, so far as I know its contents, because where it is made by Mr. Mayer for his own personal reference, he knows precisely what the article is, and a brief description might not give you the information and an inspection would. I should think it would.

Mr. KIRBY: It would not.

Mr. MATHEWSON: And it might mislead you in some way and you might take that and say this thing is worth so much whereas there might be appurtenances to it included in the general description of the article, which if your experts had considered would have
2298 added a value and made it what Mr. Mayer stated it was.

Mr. KIRBY: My suggestion was merely as a matter of expediency. If the inventory is not furnished we will simply have to make one of our own, which takes more time.

The MASTER: Meanwhile, Mr. Kirby, do not omit to get your experts in here as soon as you can.

Mr. BURR: The situation now, as far as the City is concerned, is this. Dr. Marks, our chief expert, is on the stand, and will take some time to finish his testimony, he could not be examining the plants while he was testifying, so I suppose that will be a matter which will be arranged to the satisfaction of both sides. At least I hope so.

Mr. KIRBY: There is no doubt that the Master will agree that it would save time to all concerned that the examination be done by the City and State jointly rather than by each separately, and we have made arrangements to that end. If Dr. Marks could be released so that we can go on, I think probably not to-day but within the next two or three days we should be able to go ahead.

WILLIAM D. MARKS resumes the stand.

Direct examination (continued):

By Mr. BURR:

Q. Referring to the cost of manufacture and distributing gas of 22 candle-power, will you tell us what investigation you have
2299 made upon that subject, if any, and what study you have given to the testimony produced here and at the other investigations regarding that subject?

A. Before taking up Exhibit 94, I made a very large number of investigations of the cost of making gas and of the method of computing their costs in a good many different works, not only here but also in England. The same difficulty applies to a consideration of the cost of making gas as applies with regard to the previous question of the sales of gas per capita. It is made on so enormous a scale that the precedents derived from the smaller companies or even from the larger companies did not apply in the case of the Island of Manhattan. Referring to Exhibit 94, called "Summary of Operations for the Calendar Year 1905," I would say that owing to the extraordi-

CONSOLIDATED GAS COMPANY OF NEW YORK.

Summary of Operations for the Calendar Year 1905.

		Quantity.	Price per unit.	Amount.	Quantity per M. c. f. made.	Divisor 10,657,810 cost per M. c. f. made.	Divisor 10,419,461 cost per M. c. f. sold.
1	Coal—Bituminous—Tons	229,282.81	$3.18	$729,606.21	48.19	6.84	7.00
2	Anthracite "	106,024.68	4.36	462,680.25	22.82	4.34	4.44
3	Boiler "	10,399.67	3.67	38,156.43	2.19	0.36	0.37
4	Cartage "	....	..	18,222.89	.	0.17	0.18
5	Labor handling	....	..	49,150.07	..	0.46	0.47
6	Total	....	..	1,297,815.85	..	12.17	12.46
7	—Residuals—						
8	Coke-Loads	167,071.70	2.02	333,300.91	..	3.17	3.25
9	—Less—Labor handling	....	..	35,678.39	..	0.34	0.34
10	Cartage	....	..	11,164.97	..	0.10	0.11
11	Net	....	..	291,457.55	..	2.73	2.80
12	—Tar (Coal) —Tons Carbonized	229,282.81	28.59	65,546.70	..	0.62	0.63
13	—Ammoniacal Liquor, lbs.	4,896,886.	01.34	65,849.65	..	0.62	0.63
14	—Carbon "	485,720.	01.00	4,857.20	..	0.04	0.05
15	—Spent Oxide "	5,577,034.	00.11	6,196.47	..	0.06	0.06
16	—Oil Tar—Gals	2,710,826.	01.93	52,207.26	..	0.49	0.50

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16—Oil Tar—Gals	.....									
17	Total Residuals.....	....	..	486,114.83		..	4.56		4.67	
18	Net Total—lbs.....	....	..	811,701.02		..	7.61		7.79	
19—Coke Used—Tons	.....	19,892.54	$3.22	63,972.09		..	0.60		0.61	
20—Labor	.....	....	..	1,293.31		..	0.01		0.01	
21—Cartage	.....	....	..	43.87		..	..		..	
22	Total	....	..	65,309.27		..	0.61		0.62	
23—Naphtha—Gals	.....	5,587.	04.38	244.43		..	..		..	
24—Gas Oil "	.....	41,876,670.	04.23	1,769,968.42		3.93	16.61		16.99	
25—Fuel Oil "	.....	2,502.	02.00	50.04		..	..		..	
26—Lime—Bushels	.....	62,374.	04.99	3,114.02		..	0.03		0.03	
27—Oxide "	.....	121,485.	15.78	19,173.35		..	0.18		0.18	
28—Water—c. f	.....	22,684,200.	$1.00M.	22,684.20		..	0.22		0.22	
29—Fuel Oil Labor (Inc. Drip Oil Labor if used in Mfg.)	.....	....	..	4,424.70		..	0.04		0.04	
30—Oil, Waste & Sundries	.....	....	..	5,407.15		..	0.05		0.06	
31—Cartage	.....	....	..	17,123.60		..	0.16		0.17	
32—Labor	.....	....	..	382,632.04		..	3.59		3.67	
33—Net amt. of material & Labor	.....	....	..	3,101,832.24		..	29.10		29.77	
34—Repairs to Apparatus	.....	....	..	169,197.39		..	1.59		1.62	
35— do Buildings	.....	....	..	24,900.69		..	0.23		0.24	
36— do Tools & Implements	.....	....	..	16,228.48		..	0.16		0.16	
37—Expense	.....	....	..	59,016.97		..	0.55		0.57	
38—Distribution	.....	....	..	31,655.34		..	0.30		0.31	
39—Experiments	.....	....	..	3,030.08		..	0.03		0.03	
40—Profit & Loss adjustment	.....	....	..	Credit	7,508.39	..	Credit	0.07	Credit	0.07
41—Distribut'g Sta. Expenses	.....	....	..	56,538.57		..	0.53		0.54	
42—Station Cost	.....	....	..	3,455,091.37	..	..	32.42	..	33.17	
43—Cost of Gas Mfg. under Agency Agreement				997,039.89	..	..	34.04	..	34.82	
44—Total Cost at Holder	.....	....	..	4,452,131.26	..	..	32.77	..	33.52	
45—Expense	.....	....	..	490,855.36	..	..	..	..	03.69	
46—Distributing	.....	....	..	281,524.12	..	..	..	..	02.12	
47—Repairs to Gas Stoves	.....	....	..	55,954.35	..	..	..	..	00.42	
48— do Mains	.....	....	..	126,110.31	..	..	..	..	00.95	
49— do Services	.....	....	....	89,033.46	..	..	..	..	00.67	
50— do Meters	.....	....	..	172,925.52	..	..	..	..	01.30	
51— do Buildings	.....	....	..	15,116.68	..	..	..	..	00.11	
52— do Tools&Implements	.....	....	..	15,610.59	..	..	..	..	00.11	
53—Street Lamps	.....	....	..	289,259.09	..	..	..	..	02.18	
54—Interest on Consumers' Deposits	.....	....	..	51,391.52	..	..	..	..	00.39	
55—Bad & Doubtful Debts	.....	....	..	82,995.11	..	..	..	..	00.63	
56—Profit & Loss Adjustment	.....	....	..	Credit	29,683.92	..	..	..	Credit	00.22
57	Total Distribution.....	....	..	1,641,092.19	..	..	..	..	12.35	
58—Expense—General Office	.....	....	..	339,999.51	..	..	..	..	02.56	
59—Vacations & Sickness	.....	....	..	8,175.20	..	..	..	..	00.06	
60—Automobiles	.....	....	..	5,064.16	..	..	..	..	00.04	
61—Advertising & Legal	.....	....	..	105,800.02	..	..	..	..	00.80	
62—Real Estate Rents	.....	....	..	42,674.71	..	..	..	..	00.32	
63—Gas Co's Mutual Aid Soc.	.....	....	..	6,413.99	..	..	.	..	00.05	
64—Superannuation	.....	....	..	14,943.86	..	..	..	..	00.11	

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32—Labor	....	..	382,632.04		..	3.59		3.67
33—Net amt. of material & Labor	....	..	3,101,832.24		..	29.10		29.77
34—Repairs to Apparatus	....	..	169,197.39		..	1.59		1.62
35— do Buildings	....	..	24,900.69		..	0.23		0.24
36— do Tools & Implements	....	..	16,228.48		..	0.16		0.16
37—Expense	....	..	59,016.97		..	0.55		0.57
38—Distribution	....	..	31,655.34		..	0.30		0.31
39—Experiments	....	..	3,030.08		..	0.03		0.03
40—Profit & Loss adjustment	....	..	Credit 7,508.39		..	Credit 0.07		Credit 0.07
41—Distribut'g Sta. Expenses	....	..	56,538.57		..	0.53		0.54
42—Station Cost	....	..	3,455,091.37	..	..	32.42	..	33.17
43—Cost of Gas Mfg. under Agency Agreement			997,039.89	..	..	34.04	..	34.82
44—Total Cost at Holder	....	..	4,452,131.26	..	..	32.77	..	33.52
45—Expense	....	..	490,855.36	..	..	..	..	03.69
46—Distributing	....	..	281,524.12	..	..	..	..	02.12
47—Repairs to Gas Stoves	....	..	55,954.35	..	..	..	..	00.42
48— do Mains	....	..	126,110.31	..	..	..	..	00.95
49— do Services	....	....	89,033.46	..	..	..	..	00.67
50— do Meters	....	..	172,925.52	..	..	..	..	01.30
51— do Buildings	....	..	15,116.68	..	..	..	..	00.11
52— do Tools&Implements	....	..	15,610.59	..	..	..	..	00.11
53—Street Lamps	....	..	289,259.09	..	..	..	..	02.18
54—Interest on Consumers' Deposits	....	..	51,391.52	..	..	..	..	00.39
55—Bad & Doubtful Debts	....	..	82,995.11	..	..	..	..	00.63
56—Profit & Loss Adjustment	....	..	Credit 29,683.92		..	..	..	Credit 00.22
57 Total Distribution	....	..	1,641,092.19	..	..	..	..	12.35
58—Expense—General Office	....	..	339,999.51	..	..	..	..	02.56
59—Vacations & Sickness	....	..	8,175.20	..	..	..	..	00.06
60—Automobiles	....	..	5,064.16	..	..	..	..	00.04
61—Advertising & Legal	....	..	105,800.02	..	..	..	..	00.80
62—Real Estate Rents	....	..	42,674.71	..	..	..	..	00.32
63—Gas Co's Mutual Aid Soc.	....	..	6,413.99	..	..	..	..	00.05
64—Superannuation	....	..	14,943.86	..	..	..	..	00.11
65—Insurance	....	..	54,031.83	..	..	..	..	00.41
66—Taxes	....	..	965,843.88	..	..	..	..	07.27
67—Contingent Expenses (includes renewals)	....	..	1,328,316.37	..	..	..	..	10.00
68 Total General Expenses	....	..	2,871,263.53	..	..	..	..	21.62
69—Fixed Charges	....	..	972,423.44	..	..	..	..	07.32
70 Total Operating	....	..	$9,936,910.42	..	..	..	..	74.81

71—Gas made at Consolidated Co's. Stations	10,657,810,000	
72— " " " other Co's. Stations under Agency Agreements	2,929,210,322	13,587,020,322 c. f.
73—Gas Sold, made at Consolidated Co's. Stations	10,410,461,426	
74— " " " other Co's. Stations under Agency Agreement	2,863,702,341	13,283,163,767 c. f.
75—Excess made over sales—2.24%		303,856,555 c. f.
76—Gas Sales, cubic feet	13,283,163,767	

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nary obstacles placed in the way of a proper investigation by independent and impartial experts in accounts, and in the manufacture of gas, which have resulted in the facts that there has been no examination of the works of the Consolidated Gas Company, and also that there has been no comparison of vouchers with accounts, guaranteeing that these vouchers have been properly distributed to their respective accounts, and further that there has been no examination of a complete nature of the subsidiary books, or of the final books made by impartial experts in accounts and the manufacture of gas, in behalf of the city of New York; has rendered all of the items in Exhibit 94 either doubtful or obviously to be rejected.

Mr. MATHEWSON: I object most seriously to the witness going on in this way and characterizing and stating that no opportunity has been given to examine accounts when everybody in this room knows that they have been given that. I do not think it is proper
2300 nor fair for the witness to proceed with a diatribe of that character. It seems to me he should testify and not characterize or sum up. I do not wish to be importunate, but it does seem to me that is not proper.

Mr. BURR: The record must speak for itself in that regard.

The MASTER: Yes, the record speaks for itself in that regard, and therefore it is unnecessary for the witness to testify in this fashion.

Q. Proceed.

A. Even if all the figures and computations that are on the books of the Consolidated Gas Company are correct and exact, the distribution of these figures from the vouchers still remain- a matter open to discussion between experts who are sincere in their views as to the proper distribution of them.

Further an agreement should be reached as to the proper distribution of costs as represented by the vouchers, to their various accounts, and there still remains the question of what accounts are justly chargeable to the cost of gas or operating expenses, and what should go to the capital account or the cost of the works.

For the purpose of instant identification of the items in Exhibit 94, they have been numbered from 1 to 76, as per the following tabulation:

By Mr. MATHEWSON:

Q. Is that tabulation or paper just referred to by you Exhibit 94?

A. Exhibit 94, with the items numbered from 1 to 76.

Q. Simply the numbering of the items?

A. That's all. I am reading it according to Mr. Burr's request.

(Here follows table marked p. 2300*a*.)

2301 The WITNESS (continuing): Item 70, total operating, is given as $9,936,910.42 or 74.81 cents per M. c. f. of gas made, distributed and sold.

The items which I eliminate because they obviously are not chargeable to the cost of gas, are as follows:

Item 47, Repairs to gas stoves.....	55,954.35	00.42	M. c. f.
Item 53, Stre-t lamps.....	289,259.09	2.18	"
item 54, Int. on Consumers' Deposits	51,391.52	00.39	"
Item 67, Contingent Expense.....	1,328,316.37	10.00	"
Item 69, Fixed Charges.....	972,423.44	07.32	"
Total rejected items.....	2,697,344.77	20.31	"
Balance doubtful items.....	7,239,565.65	54.50	"
Item 70.....	9,936,910.42	74.81	"

By the rejection of the above stated items, we find the total operating costs to be $7,239,565.65, and the actual cost of gas appears to be 54.50 cents per M. c. f. made.

An investigation made into item 66, taxes $965,843.88 or 7.27 per M. c. f. is as follows:

Taxes on Real Estate.....	$179,778.95
" " Personal Property.....	88,839.00
" " Special Franchises.....	406,909.23
" " Mains, Pipes, etc.....	14.91
" " Income from Gas Business.....	70,538.02
Total	$746,080.11

2302 Taxes on Income from other Companies' Securities $5,257.48

Taxes on Dividends in excess of 4 per cent. on $38,643,590.14, Stock invested in securities.....	57,965.39
Taxes on $41,356,409.86, Stock in gas business.....	62,034.61
Interest on unpaid taxes.....	94,506.29
	$219,763.77

We observe that instead of items 66, Taxes, $965,843.88.

We should have $746,080.11 or 5.61c. per M. c. f., showing a reduction of 1.66c. per M. c. f., which subtracted from 54.5c. per M. c. f., gives 52.84c. per M. c. f. for the apparent cost of gas up to this point.

Referring to Complainant's Exhibit 224 and to Item 62, Real Estate Rents $42,674.71, or 00.32c. per M. c. f., we find that for the calendar year the Real Estate Rents received amounted to $37,408.88, leaving a balance of $5,265.83, or dividing by 13,283,164 M., or about .04c. per M. c. f., which subtracted from 00.32c. leaves 00.28c. Subtracting this 00.28c. from 52.84c. we have 52.56c. for the present figures on the apparent cost of gas.

Item 67, Contingent Expenses $1,328,316.37, or 10.00c. per M. c. f. has been omitted, and so far as possible, should have substituted for it the actual renewals.

Referring to the testimony before the Gas and Electricity Commission of New York, it appears that this account was sophisticated by the introduction of a theory, and the actual renewals hidden within the 10c. per M., arbitrarily fixed as the cost of contingencies and renewals.

2303 On Page 1183 Printed Testimony, Gas and Electricity Commission, it is $194,666.87, or 1.45c. per M. If we add this sum to the apparent cost of making gas 52.56c. we have 54.01c. per M.

Referring to Exhibit 224, Page 759, we find the gas stove rents for the calendar year to be $122,322.60. Refer to Item 47, Exhibit 94, repairs to gas stoves, and we find the expense to be $55,954.35. The difference between these is $66,368.25, or 00.50c.

If, according to the English custom, the credit for stove rentals, or the cost of stove rentals, is entered into the cost of gas, this latter account would reduce the apparent cost of gas to 53.51c. per M. c. f.

It will be observed from this discussion of Item 47, Repairs to Gas Stoves, and Item 62, Real Estate Rents, that the apparent cost of gas is increased by putting into it the expenditures under these heads, and then adding the receipts under these heads to miscellaneous income, with the result of increasing the receipts from gas sales to over $1.00 per M. c. f., which is obviously absurd. Now we come to

Review of Rejected Items.

Item 53, Street Lamps, $289,259.09 is analyzed as follows:

Page "15."

Labor, fitting, repairing, lighting, extinguishing, cleaning and inspecting	$15,864.70
Pipe fittings	1,959.91
Glass	86.70
Repaving	3,849.65
Welsbach Street Lighting Company (for Mantles)	321,316.93
Sundries (Materials)	17,595.60
	$360,854.69
Credit	71,595.60
Total	$289,259.09

2304 Item 54, Interest on Consumers' Deposits $51,391.52.

These Consumers' Deposits are demanded by the Gas Company as an insurance against loss from irresponsible consumers, and these Consumers' Deposits amount to $904,520.07 (See Complainant's Exhibit 81).

Interest at 6 per cent. is claimed to be paid on these deposits, and

should be paid, because, in addition to forming an insurance fund against loss, it furnishes nearly $1,000,000 working capital for the purposes of the Consolidated Gas Company, but it forms no part of the cost of making gas.

Item 67, Contingent Expenses, $1,328,316.37, is a purely arbitrary assumption, not even based on empirical data. It has been explained above that the actual contingent expenses for twelve months ending October 31, 1905, amounted to $194,666.87, or 1.45c. per M. c. f., which has been added into the apparent cost of gas.

Item 69, Fixed Charges $972,423.44 or 7.32c. per M. c. f., has been relinquished as a charge by the experts of the Consolidated Gas Company, although they, in former investigations before other Commissions, presented it as a proper charge against the cost of making gas.

It is obvious that both Item 69, Fixed Charges, and Item 54, Interest on Consumers' Deposits, is interest on money which the Consolidated Gas Company has found it more convenient to borrow than to furnish and invest.

It would appear from the foregoing examination of items, that each of the items which has had the consideration of an expert in gas manufacture, required modification or rejection.

The fact that accountants for the State have found the computations, meaning by that the additions, subtractions, divisions, and multiplications entered on the various accounts, to be correct,
2305 is no proof that the accounts themselves have not been sophisticated by a wrong distribution of the amounts of the vouchers or that the cost of gas has not been sophisticated by a subsequent incorrect distribution of these accounts in Exhibit 94.

It is not possible for a mere accountant, familiar only with figures, and unfamiliar with the practical processes of gas making, to authoritatively determine the distribution of vouchers to accounts, nor, assuming these vouchers to have been propertly distributed, to determine the proper accounts which should go to operating cost, and which should go to capital or investment accounts.

It is a fact that a complete examination of vouchers and their distribution, and an examination of accounts and their distribution, has not been made by the Stevens Commission, Senate Document 30, 1905, or by the Gas and Electricity Commission, 1906.

Mr. MATHEWSON: I object to the statement of the witness. If there is anything to show from those records which is pertinent, and if they are pertinent evidence, the evidence as to what they show and what was done is the record itself and not the statement of this witness.

Mr. BURR: If he is familiar with the record and makes it as a statement, you can deny it later.

Mr. MATHEWSON: I do not think we ought to be put in that position.

The MASTER: It does not seem to me that it is proper testimony. I think we are allowing considerable latitude in letting the witness go on and present his statement, but when he gets into matters

which are more properly matters of summing up and char-
2306 acterizing the testimony as a whole, I do not think it ought to go in.

Mr. BURR: Very well, sir. It is not very material. Leave that out. Proceed.

The WITNESS: Referring to witnesses—President Alexander C. Humphreys, of the Stevens Institute of Technology, who was retained by the Consolidated Gas Company and who assumed the attitude of one having an enormous experience and undisputed authority, acknowledged on the stand that he had not examined the vouchers and accounts of the cost of gas, but has blindly accepted the figures furnished by the officials and employees of the Consolidated Gas Company.

Mr. MATHEWSON: What is the use of the witness stating that if that is the fact. I move to strike it out.

The MASTER: Why, yes; that is not testimony. Of course the witness is entitled to give us his views on this subject, or any facts or figures or anything which is in evidence before me, but it is not a part of his evidence to say here that some other witness planned or did something else.

Mr. MATHEWSON: Dr. Humphreys took the testimony as presented here and then presented his statement of the cost of gas from that.

The MASTER: What I understand the Counsel objects to is the characterization on the part of the witness and he contends that it is no part of his testimony.

Mr. BURR: You might strike out the word "blindly."

The MASTER: You had better have the witness leave out the speeches and the characterizations.

2307 By Mr. BURR:

Q. Referring to the testimony which was given by President Humphreys on pages 1943, 1944, 1945, 1946, 1947, 1948, 1949 and 1950 of this record, is it not a fact that he accepted the unverified figures of the officials and employees of the Consolidated Gas Company for 51.802 cents per M c. f. sold (page 1945) by the rejection of contingent expenses and repairs.

Mr. MATHEWSON: Objected to as simply a characterization of the testimony by the witness which it is not proper for him to make.

The MASTER: Oh, he can state that, I think.

A. It was a fact.

Q. And does he not proceed to add for average repairs from 1884 to 1905, and for final renewals the sum of 14.145 and reaches a cost at burner of 65.947 cents per thousand cubic feet sold?

A. He does.

Q. Now you heard the testimony of Mr. Bradley as it was given on page 2018 of the record here that "most of the water gas apparatus has been built within the last five years, and is just as modern and up-to-date as any we can contract for today."

A. I did.

Q. And in the statement appearing in Mr. Bradley's affidavit, page 35: "The manufacturing plants of several of the constituent companies which formed the Consolidated Gas Company in 1884, were originally coal gas plants, but at the present time, they have been replaced with water and oil gas plants of the latest and most improved methods, that the maximum daily capacity of the water and oil gas plants of the company is 41,500,000 *thousand* cubic feet out of a total manufacturing capacity of the gas plants in operation, amounting to 51,000,000 cubic feet. This computation does
2308 not include the 18th Street plant with a daily capacity of 3,500,000 cubic feet, for the acquisition of which condemnation proceedings have been instituted by the City of New York." And, further, the statement in the affidavit of President Walter R. Addicks, page 6: "The manufacturing plants of the Consolidated Gas Company are in good and efficient condition. About 4/5 of the present generating capacity thereof, are in the shape of modern, up-to-date water gas plants which could not be improved upon anywhere. And the coal gas plants, while possessed of some apparatus which is not of the latest pattern, are efficient, and in shape to operate for an indefinite period without impairment of efficiency." What do you conclude from these statements to which I have called your attention?

A. That the repairs themselves should be and are very low. I should say from the statements of Chief Engineer Bradley, and Vice-President Addicks, showing the coal gas plants of about one-fifth of the capacity, to be in as perfect a state of repair as possible, and that the water gas plants 4/5 of the capacity, have all been renewed and replaced within five years in the most modern methods possible, would appear conclusively——

Q. What do you deduce from those statements?

A. First, that taking an average of repairs from a number of coal gas plants, between the years 1884 and 1900, in connection with the repairs to the modern water gas plants from 1900 to 1906, is a very adroit method of padding the apparent cost of gas by using the higher repairs of old-fashioned smaller coal gas plants for the new and larger water gas plants.

Q. What have you to say with reference to the five cents added to the cost of gas making allowed by President Humphreys, making the total cost and reserve 70.947 cents per thousand cubic feet sold.

A. This reserve is purely an arbitrary assumption. It is
2309 obvious upon reflection that if the methods of the English companies had been adopted, the reserve in hand in 1905, would have amounted to a very large sum indeed, far exceeding the real needs of the Consolidated Gas Company.

The English, as a general custom, set aside their profits.

First, an insurance fund, limited to five per cent. of the capital of the company, which is intended wholly for contingencies, accidents and large and unexpected demands above ordinary repairs, and

Further, set aside out of their profit, a reserve fund limited to ten per cent. of the capital of the company, which reserve fund is sued

for the equalization of dividends in years, when the profits of the company may fall below the established rates of dividends.

The fact that the large profits of the Consolidated Gas Company may have been absorbed in the purchase of electric light corporations, or other gas corporations, at exorbitant prices, as well as the erection of new works at Astoria, is no justification for an assessment of five cents in every one thousand cubic feet of gas sold upon gas consumers.

Q. I call your attention to the testimony of Vice-President Addicks, as to the cost of gas per thousand sold on page 1757 of the record and ask you if it is not a fact that he omitted fixed charges, contingencies and a portion of the taxes, amounting to 17.81 per thousand and then added for enrichment, replacements, repairs and renewals, and labor, 9.35 cents, also 3 cents for a reserve, which is two cents less than is claimed by President Alexander C. Humphreys?

A. That is so. During the year 1905, the standard illuminating power of gas was fixed by law at 20 candles until July 1st,
2310 and after that at 22 candles. An averaging of the results of observations made by Chief-Examiner Love——

Q. Who is he?

A. Chief examiner for the city of New York. An examining of the results of observations made by Chief Examiner Love of the candle-power each day during 1905, gives the candle-power for the first six months, about 22 candles, and for the last six months above 24 candles, and in both cases proves the extravagant use of oil for unnecessary illuminating power.

Q. Is this a copy of the statement made by Dr. Love?

A. It is. It has been carefully computed and verified by two parties besides being generally arranged by myself.

By Mr. MATHEWSON:

Q. What do you mean by computed?

A. The Chief Examiner Love's affidavit was turned in on the days given, on the days you will observe, and the month given on the exhibit.

Q. But you say you have carefully computed, what do you mean by that?

A. He made in some cases two, in some cases three, and in some cases four observations of the gas of the Consolidated Gas Company which was necessary to compute an average of those for the days that were made, and then having reached those averages to compute the total average as you will observe at the bottom for the month, and then the total average for the first six months and then the total average for the last six months.

Mr. BURR: I offer that in evidence.

Mr. MATHEWSON: I do not object to it, subject to verification.

Received in evidence and marked City's Exhibit 47.

2311 By Mr. BURR:

Q. Proceed.

A. It is entirely proper to hold the illuminating power of gas at about one-half candle above a fixed standard, to provide for accidents, and oversights, but it is not necessary to exceed this amount. A careful manager using oil at 04.23 per gallon for enrichment in such vast quantities should effect a great saving in the course of a year without running any serious risk of penalties.

Q. What do you find is the average price for oil used, purchased at a fair average price, granted to smaller companies of 03.65 cents per gallon instead of 04.23 cents per gallon.

—. ——.

Q. What do you find is the average price of oil paid by the small companies to which you have referred?

Mr. MATHEWSON: Objected to. I submit this witness has no special knowledge on this subject and what he thought some small companies paid for oil where they could get it from anyone of a dozen different sources would be no criterion of what we have to pay.

Mr. BURR: If he knows what other companies are paying in other cities in the State of New York for oil he may state that fact.

The MASTER: I will allow him to answer.

Mr. MATHEWSON: Whether the witness has any personal knowledge or not, is it allowed?

The MASTER: No, he is to state what he knows about it. That is what the question is.

A. I have obtained through Brown's Directory a work used by gas managers and the data for which is communicated by officials of these companies, prices of oil in fourteen small companies in the State of New York, these prices averaging about 3.65 cents per gallon.

2312 Q. Will you give the names of the cities or towns where such companies are located?

	Per gallon.
Batavia, N. Y.	3½ cents
Binghamton, N. Y.	3.58 cents
Clifton Springs, N. Y.	3.00 cents
Fishkill, N. Y.	3½ cents
Fulton, N. Y.	3.1 cents
Half Moon Gas Company, N. Y.	3.37 cents
Middletown, N. Y.	3.75 cents
Nyack, N. Y.	3.75 cents
Oneonta, N. Y.	3.95 cents
Peekskill, N. Y.	4.00 cents
Plattsburgh, N. Y.	3.63 cents
Schenectady, N. Y.	3.58 cents
Syracuse, N. Y.	3.35 cents
Waterville, N. Y.	4.00 cents
Average	3.65 cents

Q. What do you say, Doctor, regarding the item given by Mr. Addicks as to "actual replacements," 2.12 cents?

A. Referring to Mr. Addicks' item "Actual replacements," 2.12, it

would appear as if the actual replacements for the twelve months ending October 31, 1905, amounting to $194,666.87 or 1.45 cents per thousand cubic feet sold for the calendar year, did not corroborate his statement of 2.12 cents for a calendar year overlapping only by two months, that is (about $284,700.00).

Referring to Mr. Addicks' item for enrichment, 1.83, it will be recalled that the average requirement for the year 1905, made by law, was 21 candles, and therefore that as this average was largely exceeded (23.1) that this addition of 1.83 cents to the cost of gas is a wholly unnecessary extravagance.

Q. What do you say as to the extra item of "Repairs and Renewals," 4.62?

2313 A. Referring to the extra item of repairs and renewals, 4.62, deduced from the discussion of repairs and renewals in the five years 1895 to 1899, inclusive, the same objection applies as did in the case of President Humphreys.

Mr. Addicks has selected a period during which smaller and less perfect gas works were operated for the purpose of deducing repairs, which period being one of the final destruction of this apparatus, was immediately followed by the period of 1900 to 1905, in which Chief Engineer Bradley says "most of the water gas apparatus has been built within the last five years, and is just as modern and up-to-date as we can contract for to-day." It is apparent that Mr. Addicks is selecting the five years, 1895 to 1899, which is a period in which the old works were tottering to their final collapse. According to Mr. Bradley's testimony they did collapse about 1900 and were replaced by the latest type of water gas plants.

Mr. MATHEWSON: He selected that period as he testified because the Gas Commission suggested that that period should be taken.

Mr. BURR: I object to a running commentary on my witness. I protested in vain to the helps and aids to your own witnesses.

Mr. MATHEWSON: I think he should be more careful.

Q. Regarding the item of "Labor," 78 cents and "Reserve," 3 cents what have you to say as to that?

A. The latter three cents is a purely arbitrary assumption for which empirical data are not even offered, and the fact is that had usual and proper methods of operating and financing gas works been observed, there would have been in the treasury of the Consolidated Gas Company in 1905, a more than ample reserve for all pos-

2314 sible needs. In this way Vice-President Walter R. Addicks obtains a net cost of 69.36 cents which coincides very closely with the 70.95 cents per thousand cubic feet of gas sold, reached by President Humphreys.

Q. Do these periods selected by them show properly existing conditions of the works?

A. They do not.

Mr. MATHEWSON: I object to the word "properly."

Mr. BURR: Existing conditions.

Mr. MATHEWSON: How does he know except from the testimony? He has not examined the plant.

Mr. BURR: If he knows from the testimony here. If he knows they have not and he is given the period, and now he may characterize them that they are not proper to base their assumptions upon.

Mr. MATHEWSON: That is not the point. Your question is as to whether they represent the present condition of the works. Now he does not know whether they do or not, if he has not examined the works.

Mr. BURR: I ask for the period they take for their computation.

The MASTER: You might be able to show there is some failure in their line of argument based on an improper selection of periods other than that applicable but I do not think you can prove it by questioning this witness.

Q. Isn't it a fact that Mr. Addicks and Vice-President Humphreys have selected periods for the deduction of items of repairs which do not cover the existing condition of the works?

A. They have.

Mr. MATHEWSON: Objected to on the same ground as I did before.

2315 The MASTER: It is answered. You can ask him if you care to, to point out any defect or error which he claims to exist in that allowance for repairs, whatever it is.

Mr. BURR: He has stated the statements that have been made with regard to the condition, and also state the testimony of these gentlemen with reference to a particular period, and this is his conclusion.

The MASTER: It is proper for him to state why in his opinion the period stated by them is not fairly representative, but the question as you put it I think is objectionable, but you can get at the same thing by modifying the question. He has answered it now practically.

Q. What have you to say with regard to their statements regarding the use of oil for enrichment?

A. The oil has been used in excessive quantities, unnecessarily used for an expensive illumination.

By the MASTER:

Q. Do you mean to say they have made gas of richer quality than the law required?

A. 2.1 candles ordinarily.

Mr. MATHEWSON: We have been spending unnecessary money in order to reduce our own profits.

Mr. BURR: We will show you how to run the business after a while.

By Mr. BURR:

Q. What does the statement of Dr. Love show, Dr. Marks, with regard to the use of excessive candle-power?

A. In the first six months of the year 1905, the legal requirement

was 20 candles. Dr. Love's observation on the photometer
2316 either personally or by his assistants show that the average illuminating power of the gas at the city station was 22 candles. In the last six months of the year 1905, the requirement by law was 22 candles. Dr. Love's observation during that six months made at the City's test station shows an average of 24.19 candles; nearly 24.2 candles.

Q. In excess of the legal requirements?

A. In excess of the legal requirements, and the consequence is that the average excess has been about 2.1.

Q. So that in your opinion, the oil necessary to make that candle-power was unnecessary and was wastefully used?

A. Yes, sir, and therefore Mr. Addick's addition of 1.83 cents or any addition whatever was entirely unnecessary.

Q. What is the method in your opinion, which should be pursued to avoid theories and to follow authoritative precedent as to the factors and items which enter into the cost of gas?

Mr. MATHEWSON: I object to the form of the question.

The MASTER: I think that is rather an objectionable question, Mr. Burr:

Mr. BURR: It seems to me he has pointed out some basis of the accounting of these experts on behalf of the Consolidated Gas Company which he believes he has demonstrated were improper, and I am asking what in his opinion is the proper way of figuring upon those subjects as factors going to make up the cost of gas.

The MASTER: Do you mean that the question generally was based on some of the evidence which already appears here in this case?

Mr. BURR: Based upon the evidence in this case and upon his experience and knowledge as an expert.

2317 The MASTER: Well, I will let him answer it then.

Mr. MATHEWSON: Exception.

A. There have been several suggested methods of obtaining the cost of gas.

Q. What is the practice in England, for instance?

A. The practice in England has been established by accountants and also approved and enacted by Acts of Parliament. There are other processes on this side which have not met with universal acceptance, such as the American Gas Association.

Q. What is the practice in England, for instance? Do they take in consideration anything——

A. In England the necessity of taking into consideration anything else than the actual cash expenditures incurred in the manufacture and distribution of gas is avoided by having the actual depreciation for each term of a year or six months, written off on the books, upon a carefully prepared report of the engineer of construction and carbonizing or the distributing engineer, or the superintendent of by-products works, and also requiring of each of these officials a further statement that the apparatus in his charge is in good order, and in a thoroughly efficient state of repair. These reports

are attached to the regular report of the governor [president] of a gas company.

Q. While on that point I want to call your attention to the practice there with regard to furnishing accounts or keeping accounts. What is the rule? Is it not a fact that a taxpayer or consumer on the payment of a shilling may demand and is bound to receive a copy of the accounts of the gas company?

Mr. MATHEWSON: Objected to. The question here is what is the cost of gas. Whether a consumer is entitled to examine the
2318 accounts of the company upon paying a shilling, it seems to me does not have much bearing on the cost of gas.

The MASTER: Wouldn't it be better for you to refer me to the statute, if there is one, and put it on the record?

Mr. BURR: Yes.

Mr. MATHEWSON: I shall object to it even as a statute.

Q. What do you find is the result of the precautions and the insistence upon a thoroughly efficient state of repairs?

Objected to as immaterial and irrelevant.

Mr. BURR: This is on this point of depreciation and now we want to find out what is the system with other companies, the recognized standard, which differs from the standard set up by the Consolidated Gas Company and of which we now complain, so the Court may be enlightened on that subject and draw its own deductions.

The MASTER: It seems to me if you go into that sort of thing you are opening the door very wide by raising any quantity of collateral issues which the other side have got to come in and meet. I assume that the conditions of manufacturing gas are as different in different countries and different localities as day is from night—different rates of wages, different freight rates, different local conditions—a thousand considerations, and it cannot be that we have got to go in here and draw out the merits of each individual gas company all over the world and compare it with this. I think it is quite proper of course for you to put your expert on the stand here, one skilled and experienced in this business, and let him speak in a
2319 general way as to his knowledge of conditions prevailing elsewhere, and in the light of such knowledge let him test and criticise the statements of the complainant's experts; I think that is right enough, but when you ask him to go into details and the merits or demerits of the English system I think that is going pretty far.

Mr. MATHEWSON: I make these objections, among other things because before the Gas Commission I did not make them and let the witness go on and explain all the time on what seemed to me utterly immaterial and irrelevant matters and then when I desired to put on my experts in rebuttal I was met with the proposition I should have objected, that these things went in without objection and I could not meet them. I do not wish to be put in that position here.

The MASTER: Of course if I sustain the objection the answer is nevertheless taken. It is only a question of saving time. Is there much of this line?

Mr. BURR: Not at all. I just want to ask another question with reference to Exhibit 94.

The MASTER: Well, then, let him answer it.

The WITNESS: What is the question?

The STENOGRAPHER (reading): What do you find is the result of the precautions and insistence upon a thoroughly efficient state of repairs?

Mr. MATHEWSON: I object to that. I thought that question was ruled out.

The MASTER: I will overrule the objection and let him answer.

Mr. MATHEWSON: Exception.

A. The result is that the depreciation of manufacturing
2320 plants and the depreciation of meters usually form the principal items, and the depreciation charge is a very small percentage, sometimes only a fraction of 1 per cent. of the total structural cost of the plant.

Q. For the purpose of reaching the apparent cost of gas after the English method, have you examined and arranged Exhibit 94?

A. In order to——

Mr. MATHEWSON: I shall object to going into this. It seems to me utterly unprofitable to arrange Exhibit 94 after the English method.

Q. I will ask you what you consider is the proper method of segregating the accounts in Exhibit 94?

Mr. MATHEWSON: Has not the witness testified to that already and gone over it?

The MASTER: Let him answer.

Mr. MATHEWSON: Exception.

A. In order to confirm any personal opinion that I may have formed, I have taken the clearly defined and specified method used by English accountants in giving the cost of gas each year for public and judicial use. I have segregated the accounts and the items stated in Exhibit 94 according to this method and having done that, have deduced a cost of gas by this segregation under the following heads:

1905.	Total.	Cost per M sold.	Percentage cost.
Net Coal	$2,647,276.18	25.40	
Mfg. Charges	807,818.19	7.77	
Distribution Charges	1,095,123.87	8.23	
General Expenses	751,345.94	5.65	
Management Charges, Law etc.	812,090.55	6.11	
Total, or apparent cost per M. sold	$6,113,651.73	53.16	

Q. Have you taken any measures to check that total with a comparison of Exhibit 94?

2321 A. To check this total with Exhibit 94 we add the following items. Total cost as above $6,113,651.73.

Item 53, Street Lamps	$289,259.09	
" 54, Interest on Consumers' Deposit	51,391.52	
Item 59, Fixed Charges	972,423.44	
" 67, Contingent Expenses	1,328,316.27	
Less	194,666.87	1,133,649.50
Item 47, Repairs to Gas Stoves		122,322.60
Item 66, Taxes		219,763.77
" 43, Cost of Gas Mfg. Agency Agreement		997,039.89
Item 63, Real Estate Rents		37,408.88
		$3,823,258.69

which added to $6,113,651.73 gives a check total of $9,936,910.42, corresponding to item 70 in Exhibit 94.

Q. And by that method the apparent cost of gas used is 53.16 cent per thousand cubic feet of sales?

A. That is right.

Q. That differs from the apparent cost of gas previously deduced, doesn't it?

A. That differs, in this respect, this .35 cents difference is the difference between Item 42, station costs, and Item 44, total cost at holder, and checks the computation in both cases, as in the first case total cost, Item 44 included Item 42, Station cost, and Item 43, gas manufactured under Agency Agreement.

Q. Did you take pains to further check the total result of these computations with Exhibit 94, and if so, state in what manner?

A. In order to further check the total amount of these computations with Exhibit 94, omitted items and partially omitted
2322 items have been added together and then added to the total of the items, giving the apparent cost as 53.16 cents per thousand cubic feet. Item 70, Total Operating Expense, $9,936,910.42 exactly equals this amount and proves there are no errors in the computation, and further, Exhibit 94 has been carefully checked in every figure for the purpose of eliminating any possible numerical errors.

Q. Now, Doctor, what have you to say in regard to the items charged here on Exhibit 94 for insurance and reserve funds? Is that a proper charge or are these proper subjects for special allowance if required or demanded by a company which has confessedly, as in the case of the Consolidated Gas Company, made for a long term of years, the profits that the Consolidated Gas Company has?

A. It is obvious that the surplus applicable to both these funds would have been more than ample, had not the Consolidated Gas Company gone out of its province as a gas manuufacturer in the endeavor to obtain the monopoly of all forms of lighting in the Island of Manhattan and in Greater New York.

Mr. MATHEWSON: I move to strike that out. There we are again. He is not answering the question at all. The only question is

whether it was a proper charge and he is entering into a discourse on our holding a monopoly of lighting. The question was whether that was a proper charge on the manufacture of gas.

Mr. BURR: I assume he was going to state his reasons. If you want to object——

Mr. MATHEWSON: I do object. I move to strike that part out.

(Question and answer read by stenographer.)

The MASTER: It is very difficult to separate that so as to strike out the objectionable portion.

2323 Mr. BURR: I will ask to have the answer stricken out and take the answer yes or no, and then ask for his reasons.

The MASTER: That is proper. It may be stricken out.

Q. What is the answer?

A. It is not under existing conditions.

Q. Why?

A. Because the Consolidated Gas Company appear to have spent their surplus in an endeavor to obtain control of all forms of lighting on the Island of Manhattan.

Mr. MATHEWSON: I move to strike that answer out.

The MASTER: I will let it stand.

Mr. MATHEWSON: Exception.

By the MASTER:

Q. What you mean by that is that the surplus has been expended in the purchase of securities of other companies?

A. Yes, sir.

The MASTER: That is the way it should have been stated.

Mr. MATHEWSON: Whereas the evidence is directly to the contrary.

Mr. BURR: I ask to have that stricken from the record.

The MASTER: Strike it out.

Mr. BURR: I do not believe Mr. Mathewson should make such statements.

The MASTER: No, but if you let your witness go on and get loose from the facts, you render yourself liable to that sort of interruption.

By Mr. BURR:

2324 Q. If the Consolidated Gas Company was in need of a reserve or an insurance fund, its proper procedure would be to form these funds out of the profits of these other purchases of securities in other companies.

A. It would seem entirely proper.

Q. Now, what have you got to say, Doctor, from your examination of the testimony here and your knowledge with regard to the situation at Astoria and the proposal of the Consolidated Gas Company to acquire the plant at that point?

A. It would seem to me that any suggested claim for an allowance to be devoted to the erection of gas works at Astoria is extortionate. Brooklyn and Queens County being rapidly populated and put into communication with the Island of Manhattan by bridges and tunnels as well as ferries, in another decade a gas consuming territory will

be closely populated, in comparison with which the demands of the Island of Manhattan will be relatively small indeed.

Astoria with its proposed works of 240,000,000 c. f. daily capacity or 48,000,000,000 c. f. of annual capacity is an enterprise which can on an independent footing easily command unlimited capital and consumers on the Island of Manhattan are being subjected to either 3 cents or 5 cents or 10 cents per M. c. f. of sales for the purpose of building up this vast enterprise, whose future is guaranteed by every condition favorable to an almost unlimited sale of gas.

Q. I call your attention to the profits per M. c. f. of gas sold. What do you find the facts to be from your investigation?

A. By using the cost of gas manuufactured by the Consolidated Gas Company and the English method of computing the cost of gas, we have obtained an apparent cost of 53.16 cents per M. c. f. of gas sold.

Q. All of the information upon which these figures are based is derived by you from the transcript of the accounts of the company which have been furnished you?

A. From the unverified transcripts.

2325 Q. Except in the few instances such as Item 47, Repairs to Gas Stoves, Item 53, Street Lamps, Item 54, Consumers' Deposits, Item 62, Real Estate, Item 66, Taxes, and Item 67, Contingent Expenses, which have been partially analyzed and explained, is that true?

A. Yes, and they lead to the inference that every other item needs a thorough investigation——

Q. On Exhibit 94?

A. On Exhibit 94, needs a thorough investigation, not by an accountant for the purpose of seeing whether 2 and 2 makes 4, but by some expert in the gas business.

Q. And what in your opinion, what would be the actual cost of gas if an impartial and fair audit of vouchers relating to this item on Exhibit 94 were had?

Mr. MATHEWSON: Objected to as pure conjecture and speculation of the barest kind. If those figures are not correct, what can he conjecture if they were properly gone over?

The MASTER: I do not think that is very valuable testimony.

Q. Well, I will ask, in addition to that, based on your experience and upon your knowledge of the gas making business, and the conditions that you have ascertained exist here, from the investigations heretofore had and the present inquiry before the Master.

Mr. MATHEWSON: I object to that. The witness is not an expert in this line and he has not been shown to be and he never made gas in the City of New York.

The MASTER: I will let him state his opinion on the subject.

Mr. MATHEWSON: Exception.

A. It is difficult to say how low the price or rather the cost
2326 of gas may go under the conditions of enormous manufacture and quantity put out here in New York, and more particularly on the Island of Manhattan. It appeared to me at the outset

from figures which I had been able to obtain from smaller companies that there was a probability that the cost of gas would be somewhere between fifty cents and fifty-seven cents, that it would be found to be about that; but as I have gone on going into these matters, I have felt certain that the cost of gas would be found below fifty cents—I refer to the cash cost—how much below I do not know, but probably something above 44 cents.

Q. And less than fifty cents?

A. And less than fifty cents.

Q. Have you any knowledge of the gas situation as it exists in other cities in the United States in comparison with the conditions which have been revealed here by this testimony to exist in the City of New York?

A. The nearest approach——

Mr. MATHEWSON: I object.

The MASTER: Have you any knowledge, is the question?

A. I have.

Q. Of what cities?

A. In the City of Chicago I have the recent report of Hon. Lynn H. Young, Chairman of the Committee on Gas, Oil and Electric Light of the City of Chicago.

Q. What is gas manufactured and sold for there?

A. His statement is——

Mr. MATHEWSON: I object to that as immaterial and irrelevant, in the absence of testimony as to the local conditions, cost of material and other items.

Mr. BURR: I am asking for the fact: If he cannot justify
2327 it, it does not amount to anything.

The MASTER: I will take it.

Mr. MATHEWSON: Exception.

A. His statement is that the cost of gas in the City of Chicago of 22 c. p. based on an interrupted investigation made by accountants has reached 45.45 cents per M. c. f. sold.

Q. There was an investigation, was there not?

A. There was an investigation made.

Q. What was the holder cost of gas stated to be in that investigation?

Mr. MATHEWSON: If you have the record of the investigation there and the testimony exact, and if it is relevant at all, why not produce it instead of getting this witness to go over this subject.

The MASTER: I think that is a fair suggestion, Mr. Burr.

Mr. BURR: If he will state the fact I will produce the evidence.

The MASTER: If the witness's only knowledge is the report of which he speaks, we might as well have the report here.

Q. Have you the report?

A. I have the report here.

The MASTER: I regard that evidence as of very little value, but I think under all the circumstances we might as well get all the light

we can on this question under reasonable limits and put in the cost of gas in Chicago; but what I cannot understand is how it is at all relevant to what the gas companies claim was the cost there. Suppose they lied. He has testified that the cost was 45.45 cents at the holder. Now suppose the gas companies claimed it was $1.45.

Mr. BURR: But the condition is entirely different. They
2328 were yanked into an investigation and protested that they were being unjustly dealt with, and they admitted that the cost at the holder was something around 45 cents.

Mr. MATHEWSON: I do not think they ever admitted that, and I think that the professor is stating something about which he knows nothing, and that the computation is entirely wrong.

The MASTER: But all this evidence is open to the objection that I pointed out before, that it raises a vast number of collateral issues, some of which it may not be practicable to meet.

Mr. BURR: I can have the accountant here who made this examination and whose result it was, if we are going into it. I only wanted to get the fact that the cost of gas in Chicago was so much.

Mr. MATHEWSON: But it is not the fact.

Mr. BURR: Now, if we can show that the conditions are not the same, it will have very lit-le value.

The MASTER: Produce your report and let us see what it is.

(Book produced.)

Mr. BURR: That is from the report of the accountants to the Board of Counsel there.

The MASTER: Do you want to offer this report?

Mr. BURR: Yes.

The MASTER: Then it seems to be hearsay 3 degrees removed. The Doctor here is testifying about something of information he gets from a chairman of a committee in Chicago who bases his report on the report of a firm of New York accountants. Is that very valuable?

Mr. BURR: And the official report published by the City.

2329 The MASTER: Is not that Marwick & Company in New York?

Mr. BURR: Yes.

The MASTER: I should think if you want to prove anything about the cost of Chicago gas you had better call Mr. Marwick.

Mr. MATHEWSON: I call the Master's attention to the fact, too, that he is selecting one item out of this. Following that is Prof. Bemis, who was trying to make the cost appear as low as possible, 51.91 cents, virtually 52 cents, and not 45 cents, and following that is another one from Mr. Cawdrey of Laclede, who figures 53.52, and we are dosed here with 45.45 cents, when their own expert says it was 52 cents, Bemis, who I suppose is retained here to testify in this case.

By Mr. BURR:

Q. I call your attention to this report of the committee on Gas, Oil & Electric Light for the City Council of Chicago, January 28, 1906, page 40, Exhibit A. Will you be good enough to state from looking at that what the cost of gas was at the holder?

Mr. MATHEWSON: Objected to as immaterial and irrelevant and the witness is incompetent to testify on the point.

The MASTER: I will take it for what it is worth, as I stated. I do not regard it as of very great value, but I will take it. I assume that the witness having testified here on the facts in this case as to his opinion regarding what ought to be the cost of gas, that he ought to be allowed to get out here any facts that have influenced him in forming that opinion, and if this report about the cost in
2330 Chicago has any bearing on it, I think it is quite proper he should put it in. On that theory I will take it.

Mr. MATHEWSON: Exception.

A. From the report of the committee on Gas, Oil and Electric Light to the City Council of Chicago, January 29, 1906, I obtained the following figures of the revised cost by accountants who have made an investigation of gas of 22 candle-power. Cost of manufacturing in the holder, 28.22 cents per thousand c. f., cost of distribution including renewals at the consumer's meter 17.23 cents per M. c. f. Total cost 45.45 cents per M. c. f.

Q. Now, Doctor, if you for the purpose of computation take the apparent cost of gas to the Consolidated Gas Company at 53.50 cents and with the price of gas is fixed at seventy-five cents, what do you find remains of profits on each thousand cubic feet?

A. There remains a profit on each thousand cubic feet of gas sold of 21 and one-half cents.

Q. During the year 1905?

A. During the year 1905.

Q. If instead of the price of seventy-five cents for the city, you fix the selling price at eighty cents, what do you find there remains of profit on each thousand cubic feet of gas sold at the consumer's meters?

A. There remains 26½ cents for every M. c. f. of gas sold at the consumers' meters.

Q. By what method would you be able to arrive at the percentage of this profit on the actual structural cost of the gas works?

A. By finding out the actual structural cost of the gas works per M. c. f. made in each year and then finding out by the ordinary methods of computation what the percentage of profit would be on the actual structrual cost of each M. c. f. delivered.

Q. Now adopting that method what do you find the ap-
2331 parent fact to be regarding the Consolidated Gas Company and its plants?

A. From previous investigations or investigations in other companies——

Mr. MATHEWSON: I object to that unless the witness is shown to have some competency to judge as what the cost or value of the property here is. He certainly has not been shown yet to have any information on that score.

The MASTER: Let him finish his answer.

Mr. MATHEWSON: If he finishes his answer it will be up to me to move to strike it out and his answer is there. May I ask him two questions before he answer that question, as to his competency?

The MASTER: Certainly.
Mr. BURR: All right, I have no objection.

By Mr. MATHEWSON:

Q. Have you made a personal examination of the plants of the Consolidated Gas Company, Doctor?
A. As previously stated, I have been denied the opportunity.
Q. Have you seen any of the vouchers or any of the records as to the original cost of these lamps?
A. As I have previously stated, I have been denied the opportunity.
Q. Did you construct any of them?
A. I have not.

Mr. MATHEWSON: I object to this testimony as incompetent and the witness is not qualified to state what the cost of these plants is or was.
The MASTER: I will let him answer it and overrule the objection.
Mr. MATHEWSON: Exception.

A. I have been inclined to place the actual structural cost
2332 of the Consolidated Gas Company's station at $2.00, but a more minute and careful examination of the original reports of Jay Yeldon, accountant for the Commissions of 1885 and 1886, proves that the original and actual structural cost, when we take into consideration subsequent additions, is in the neighborhood of $1.91 per annual thousand cubic feet of gas sold. Thus, calling it $2.00, would for 75c. gas give a profit of 10¾ per cent. or over, and for 80c. gas a profit of 13½ per cent. or over, on the actual structural cost.

Mr. MATHEWSON: I move to strike it out on the ground it appears by the witness' answer that he bases it on the statement or report of Jay Yeldon, which is not in evidence here and of the accuracy of which there is no evidence presented.
The MASTER: I will let it stand.
Mr. MATHEWSON: Exception.
Mr. BURR: It is the basis of the report which you have offered in evidence.
Mr. MATHEWSON: The record shows differently.

By Mr. BURR:

Q. Have you examined Complainant's Exhibit 96?
A. I have.
Q. And from an examination of that and the testimony given in this case by the complainant what have you to say as to the total cash profits to the Consolidated Gas Company?
A. From Complainant's Exhibit 96, 1905, we have the following: Gas Sales, $13,552,482.97; operating expenses including taxes, $8,964,486.98; net earnings, $4,986,995.99. If we deduct arbitrary charges added to the cost of gas as a reserve, we have been
2333 given the following figures for the cost of gas per thousand cubic feet of gas sold.
By Mr. Addicks, 69.36 cents less reserve 3 cents, difference 66.36

cents. By Mr. Humphreys, 70.95 cents less reserve 5 cents, 65.95. Average of these two, 66.15 cents and if we further multiply this average of 66.15 cents by 13,283,164,000 cubic feet, we obtain $8,786,812.97, which is somewhat less than the operating expenses given in Exhibit 96.

From the figures of Messrs. Humphreys and Addicks it would appear as if

Gas Sales	$13,552,482.97
Less Operating Expenses, inc. taxes	8,786,812.97

would give net earnings of $4,765,670. This amount approximately corroborates the figures taken from the company's books.

Q. That is as they appear upon the statement in evidence?

A. Yes. It would be of interest to compare this net earning with the probable net earning, resulting in 1907 from a reduction of the price of gas to 75 cents to the city and to 80 cents to private consumers. We have from Mr. Addicks' affidavit, the statement that about four hundred million cubic feet annually are sold to the city authorities of the Borough of Manhattan by the Consolidated Gas Company, so that the 5 cents reduction to the city makes a negligible difference of about twenty thousand dollars, in this very large total.

Referring to the discussion of the probable sales of gas in 1907 it would seem as if it was probable that the total amount sold at 80 cents by the Consolidated Gas Company would be 15,342,981,000 cubic feet, and referring to the figures deduced for the cash cost of gas per thousand cubic feet sold of apparently fifty-three and a half cents we have the following:

2334 Gas Sales, 15,343,000,000 c. f. at 80c	$12,274,400.00
Apparent operating exp	8,208,505.00
Net Earnings	4,065,895.00

If, however, it should prove after a thorough investigation of the books, accounts, vouchers and works of the Consolidatedd Gas Company that the true cash cost of gas delivered at the consumer's meter is, as in Chicago, 45.50 cents or less, we would have

15,343,000,000 at 80 cents	$1,227,440.00
to add to the preceding	4,065,895.00
Making	5,293,335.00

cash profit on the sales of gas during the year 1907.

Q. What have you to say, doctor, as to the duty of a gas engineer with regard to the procurement of materials at fair prices.

Mr. MATHEWSON: I object to that as immaterial what the doctor has to say on that point. We concede that he ought to get them as low as he can.

Mr. BURR: He has given testimony as to the consumption of an unnecessary amount of oil in the additional candle-power which was not required by law. Now he as an old experienced gas engineer——

The MASTER: Don't you think I am capable of drawing that deduction?

Mr. BURR: No doubt about that, but I wanted to get what he had to say on the subject.

The MASTER: I know, but he might have a great deal to say that wasn't evidence.

Q. Now what do you conclude from the statements you have made will be the result with the price of gas fixed at 75 cents to
2335 the city and at 80 cents to private consumers, assuming that your prognostication as to population and consumption proves to be true?

Mr. MATHEWSON: What way?

Mr. BURR: Result to the Consolidated Gas Company in the way of profits.

Mr. MATHEWSON: Hasn't he already testified what he thinks there will be?

Mr. BURR: On the structural cost.

Mr. MATHEWSON: He has not testified what the structural cost was.

Mr. BURR: Per annual thousand feet of gas.

The WITNESS: I have made the annual structural cost at $1.91 previously, and suggested $2.00 as being in a rude way a sufficient factor of computation of the profit, or in the neighborhood of 10 per cent. or over in one case and in the neighborhood of 13 per cent. or over in the case of 80-cent gas——

Q. Thirteen or seventeen per cent.?

A. Thirteen per cent. in the case of the figure $2.00 being taken.

Mr. Burr will you pardon me, my eyes are beginning to hurt me, and if you can kindly suspend now——

Q. Just one moment. Referring to Exhibit 81, if you please Doctor, investment in gas business October 31, 1905, $40,500,455.99, did you examine that exhibit and what have you to say with regard to it and to its relation to what you have previously testified regarding this structural cost and the price of 75c. to the city and 80c. to the consumer?

A. It would appear that net earnings or profit for the sales of gas in 1907 would be about five million dollars on an actual structural cost of something less than thirty million dollars, or referring to Exhibit 81 investment in gas business October 31, 1905, $40,500,-
454.99 claimed structural cost, or of $49,110,454.99 tangible
2336 investments claimed as required in the gas business actively, this five million dollars would show a percentage ranging all the way from 17 per cent. or over in the first case to about 10 per cent. in the last case.

Mr. BURR: With your permission we will conclude to-day.

Adjourned to October 2, 1906, at 11 a. m.

Last exhibits:

Complainant's, same as before.
City's, 47.
State's, same as before.

2337 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *October* 2, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Kirby.

Mr. BURR: The statement of which the total figures were given on page 2320 was omitted from yesterday's proceedings and is now inserted here.

2338 SEGREGATION OF EXHIBIT 94.

				Cost per M sold.	
	Net coal, including coke, oil and spirit:				
Item 1,	Bituminous coal	$729,606.21		7.00	
" 2,	Anthracite coal	462,680 25		4.44	
" 3,	Boiler coal	38,156.43		0.37	
" 4,	Cartage coal	18,222.89		0.18	
" 5,	Labor handling	49,150.07		0.47	
" 19,	Coke used	638,972.09		0.61	
" 20,	Labor	1,293.31		0 01	
" 21,	Cartage	43.87		0.00	
" 23,	Naphtha	244.43		0.00	
" 24,	Gas oil	1,769,968.42		16.99	
" 25,	Fuel oil	50.04		0 00	
			$3,133,388.01	—	30.07
" 11,	Net coke	$291,457.55		2.80	
" 12,	Tar	65,546.70		0.63	
" 13,	Ammoniacal liquor	65,849.65		0.63	
" 14,	Carbon	4,857.20		0.05	
" 15,	Spent Oxide	6,196.47		0.06	
" 16,	Oil tar	52,207.26		0.50	
			$486,114.83	—	4.67
	Net coal, less residuals		$2,647,273.18	....	25.40
	Manufacturing charges:				
Item 26,	Lime	$3,114.02		0.03	
" 27,	Oxide	19,173.35		0.18	
" 28,	Water	22,684.20		0.22	
" 29,	Fuel oil labor	4,424.70		0.04	
"	Oil, waste and sundries	5,407.15		0.06	
" 31,	Cartage	17,123.60		0.17	
" 32,	Labor	382,632.04		3.67	
" 34,	Repairs to apparatus	169,197.39		1.62	
" 35,	Repairs to bldgs	24,900.69		0.24	
" 36,	Repairs to tools and impl'ts	16,228.48		0.16	

Item 37,	Expense	$15,016.97		0.57	
" 38,	Distribution	31,855.34		0.31	
" 41,	Distributing station expense	56,538.57		0.54	
" 39,	Experiments	3,030.08		0.03	
			$815,326.58	—	7.84
" 40,	Profit and loss adjustment		7,508.39	0.07	
			$807,818.19	7.77	7.77
			$3,455,091.37	....	33.17
2339	Distribution charges:				
Item 45,	Expense	$490,355.36		3.69	
" 46,	Distribution	281,524.12		2.12	
" 48,	Repairs to mains	126,110.31		0.95	
" 49,	Repairs to service	89,033 46		0.67	
" 50,	Repairs to meters	172,925.52		1.30	
" 51,	Repairs to buildings	15,116.68		0.11	
" 52,	Repairs to tools and instruments	15,610.59		0.11	
			$1,191,176 04	—	8.95
" 47,	Repairs to gas stoves (rents)		66,368.25	....	0.50
			$1,124,807.79	....	8.45
" 56,	Profit and loss adjustment		29,683.92	....	0.22
			$1,095,123.87	....	8.23
	General expense:				
Item 62,	Real estate rents	$5,265.83		0.04	
" 66,	Taxes	746,080.11		5.61	
			$751,345.94	—	5.65
	Management charges, law, etc.:				
Item 55,	Bad and doubtful debts	$82,995.11		0.63	
" 67,	Contingent expense	194,666 87		1.45	
" 58,	Expense, Gen'l Office	339,999.51		2.56	
" 59,	Vacations and Sickness	8,175.20		0.06	
" 60,	Automobiles	5,064.16		0.04	
" 61,	Advertising and legal	105,800.02		0.80	
" 63,	Gas Co.'s Mutual Aid Soc'ty	6,413.99		0.05	
" 64,	Superannuation	14,943.86		0.11	
" 65,	Insurance	54,031.83		0.41	
			$812,090.55	—	6.11

2340 WILLIAM D. MARKS resumed.

Direct examination continued by Mr. BURR:

Q. Doctor, was the method which you adopted to ascertain the true cost of gas from the figures in evidence here based on Field's Analysis?

A. It was.

Q. What is Fields' Analysis?

A. Fields' Analysis is a compendium of the results published yearly in England giving the cost of gas made in the various gas works throughout England, in conventional form.

Q. Is it a standard form?

A. A standard form, and is used for comparing the results of the various gas works throughout England, Ireland and Scotland.

Q. Have you Field's Analysis of the accounts of the gas companies in England, Ireland and Scotland for the year 1905?

A. I have. It is in your hands.

Q. And was your analysis of the accounts of the Consolidated Gas Company based upon that method pursued in the Fields' Analysis?
A. It was.

Mr. BURR: I offer in it evidence.
Mr. MATHEWSON: I object to that book going in evidence. I do not see how it is material or relevant. He stated he followed the methods there, and if we find he did not——
Mr. BURR: It is a standard method.
The MASTER: He testifies it is a standard and proper method, and unless it is contradicted it stands, and it is not necessary to put the book in evidence.
Mr. BURR: I will not burden the record with that book, if that is the understanding.
The MASTER: Well, I would not take it.

2341 Q. Have you made an investigation of the actual structural cost of the stations of the Consolidated Gas Company?
A. So far as it has been permitted, I have made approximate estimates based upon comparisons with the actual structural cost of gas works in Massachusetts and upon their outputs and capacities.
Q. As you have testified, it is impossible without an inventory going into detail and involving a personal examination to give the actual structural cost?
A. In individual instances it cannot be given with great precision without a personal examination and a careful inventory.
Q. But are there, as the result of experience and to your knowledge, certain precedents and constants of construction and of capacity of gas works which are recognized among engineers as sufficiently approximate to afford a safe estimate of the actual structural cost of proposed or existing gas works?
A. There are, and they have been used in this investigation.
Q. And is it customary to use these constants of costs and capacity for the purpose of checking precise inventories of gas works?
A. In order to avoid the possibility——
Q. Well, is it?
A. It is.
Q. You may continue about that.
A. In order to avoid the possibility of large errors or to check unusual constructions, a competent engineer would not regard an inventory as complete unless it had been carefully checked from precedents already in existence and of a somewhat similar character, if such a thing were possible.

Mr. BURR: I offer in evidence Mr. Yalden's report attached to the report of the Senate Committee of Investigation of Light-
2342 ing Companies in the City of New York, March 1st, 1886.
Mr. MATHEWSON: Senate Document 47?
Mr. BURR: Senate Document 47.
Mr. MATHEWSON: I object on the same grounds that I objected to the offering of page 776, which was part of Mr. Yalden's report; that it is incompetent, and, furthermore, that it is immaterial, in

view of the terms of the statute under which the complaint was formed.

The MASTER: I will take it.

Exception.

Received in evidence and marked City's Exhibit 48.

Mr. BURR: I meant the report and the tables attached to City's Exhibit 48 of October 2nd, 1906, embracing from page 635 to and including page 781.

The MASTER: Exactly what is that? Is it an accountant's report attached as a schedule to a report of a Senate Committee?

Mr. BURR: Yes.

Mr. MATHEWSON: That includes City's Exhibit 31, already offered on page 776 of this Exhibit 48 to-day.

Q. Now, you have familiarized yourself, Doctor, have you not, with the consolidation of the companies in November, 1884?

A. I have. I have made a very careful study of the records and reports upon that consolidation.

By Mr. MATHEWSON:

Q. Won't you specify what records and reports?

A. The report, Senate Document of 1885, and also Senate Document 47 of 1886.

2343 By Mr. BURR:

Q. What did you find was the method of consolidation adopted by the six companies in 1884?

Mr. MATHEWSON: Objected to, the witness being incompetent to state. It is already fully in evidence, covering the method pursued.

Mr. BURR: Well, he is going to base—— It won't take more than ten lines.

The MASTER: But it is all in evidence as to how it was done.

Q. In 1884, is it not a fact that the six companies which had been operating under the pooling agreement fixing the price of gas to the inhabitants of the Borough of Manhattan, consolidated as one company under the statute of 1884?

Mr. MATHEWSON: Objected to as improper in form, and the witness is incompetent to answer. There has been no testimony about a pooling arrangement. I do not suppose Professor Marks was connected with the companies or has any knowledge on that point. It is in evidence six companies consolidated.

The MASTER: If it does not appear here already in evidence it must be susceptible of better proof than this, Mr. Burr. I will sustain that objection.

Mr. BURR: I offer in evidence pages 782 and 783 of Senate Document No. 47, being the pooling agreement and apportionment tables attached to the report of the Senate Committee.

Mr. MATHEWSON: Objected to as incompetent, irrelevant and immaterial. I cannot see how it affects the issues in this case at all. It does not make their property more or less valuable.

2344 The MASTER: I will take it.
Exception.
Received in evidence and marked City's Exhibit 49.

Q. Is it not a fact, or is it the fact, that by reason of the consolidation that the actual and true structural cost of the companies was hidden through the capitalization which resulted from the consolidation of the companies?

Objected to as purely a conclusion and as something which, if it is of any value at all, should be drawn by the Referee or Court and not by this witness; furthermore, that the witness is incompetent.

Mr. BURR: Well, the Referee can learn it in two words here and we can go on with the testimony without pausing here to——

The MASTER: Do you not think we had better get in the facts on which that conclusion is based? I might possibly draw the same conclusion as the witness. The witness might think something was concealed and say so, and somebody else looking at the facts might not think that something was concealed and say so.

Mr. BURR: I want to get the facts on which he bases the conclusion, if that is his conclusion.

The MASTER: Your question rather called for a conclusion.

Mr. BURR: Because I thought he objected to giving the facts.

Mr. MATHEWSON: Your facts are admitted, so far as you have offered them.

The MASTER: You can show, and I think it has already been shown, what the capitalization was of all those constituent
2345 companies and what the capitalization of the new company was, and you can produce the figures if you like of the structural value of the plants and then it would be open to the Court to draw a conclusion based on those facts, as to whether there was any concealment or shuffling around of capitalization.

Q. You have examined the report of the Committee of 1886 and you have also examined the report of the accountant employed by that Committee, Mr. Yalden?

A. I have.

Q. And you are familiar with the facts and figures brought out by Mr. Yalden in his report and his schedules annexed to his reports?

A. I am.

Q. And as a result of the examination of Mr. Yalden's account, which is now in evidence here, what do you find was the situation in 1884 when this consolidation took place, as to whether there was anything sold by the constituent companies to the Consolidated, or whether it was merely an aggregation of these companies coming together and changing their name to the Consolidated Gas Company?

Mr. MATHEWSON: I object to that, on several grounds. In the first place, he has asked what these reports show. The reports show what they show. His testimony cannot make it any more or less emphatic. In the second place, the testimony sought is purely a conclusion, and you might call a witness to say that some other conclusion was correct, neither one of which would be of any value as

against the language of the documents themselves. It seems to me we are going very far afield and opening a wide field if we are going into these things—conclusions of witnesses.

The MASTER: It seems to me there is considerable force in that, Mr. Burr.

2346 Mr. BURR: I simply desired to show now by this witness what I think will not be denied by Mr. Mathewson or by anybody, that these companies simply changed their name, that is all, by adopting a partnership name called the Consolidated Gas Company.

The MASTER: Isn't that a matter for you to argue if you choose in your brief at the proper time from these facts now in evidence? How does it add any strength to it to have one witness or another say what he admits to be shown by those figures?

Mr. BURR: I am simply trying to have him tell you what he finds existed at the time with regard to the structural value, and in the absence of such an investigation as he has been able to have had he can deduce from that——

The MASTER: He can comment on these facts in this report in evidence from which conclusions such as you want might be drawn possibly, but beyond that I do not think he ought to go. Your question is pretty broad.

Mr. MATHEWSON: We consolidated under the statute of 1884 expressly authorizing such consolidation of such companies, and whether the effect of the statute was to change the name of the company, or whether it formed a new corporation, it seems to me is not for this witness to say.

The MASTER: I will sustain the objection. I think the question is objectionable.

Mr. BURR: You may answer.

A. From my investigations, so far as the stockholders were concerned, nothing was sold and nothing was paid for in money. The stockholders of the six companies received in exchange for their stocks certificates in these companies, an average of about
2347 what was twice their face value in the stock of the Consolidated Gas Company.

Q. And was the capitalization increased?

A. The capital stock of the six companies was $17,000,000. It was increased in the Consolidated Company to $39,078,000.

Q. Was that from your opinion or investigation a fictitious capitalization?

Objected to.

Objection sustained.

Exception.

The MASTER: You can answer it.

A. It was a fictitious capitalization to a very large amount.

Q. And to that extent is it your opinion that the actual structural cost of the gas plants of the Consolidated Gas Company was concealed—the true structural cost?

Mr. MATHEWSON: I make the same objection, that it is a conclusion and as incompetent.

Objection sustained.

Exception.

A. The actual structural cost of the six companies was concealed by the opening of the new books of the Consolidated Gas Company with very large increased values to correspond with that increased capitalization.

Q. Have you sought to ascertain with some approximation the probable structural cost of the gas works of the Consolidated Gas Company?

A. I have.

Q. Will you state what methods you pursued in such endeavor?

Mr. MATHEWSON: I object on the ground that this witness
2348 has not been shown to possess knowledge or to be competent to testify as an expert on the cost of gas plants.

The MASTER: He may state what method he pursued.

Exception.

A. I have been obliged to take the figures as to the output or gas sales of the Consolidated Gas Company and having those figures to endeavor to obtain the actual constructural cost by careful comparison with the carefully kept figures of Massachusetts Gas Companies and the relation which existed between their structural cost and their gas sales.

Q. And will you tell us the result of such investigation by you?

Mr. MATHEWSON: I make the same objection.

The MASTER: When you say the result, you mean what is the structural cost of those plants as arrived at by him by the application of this method?

Mr. BURR: Yes.

Objection overruled.

Exception.

A. In order to learn the sum approximately of the probable structural cost of gas works it would be necessary to refer to the report of the Massachusetts Gas and Electric Light Commissioners for the calendar year 1905. On page 26, Appendix, we find the statement of assets of the Cambridge Gaslight Company as follows:

Real Estate	$321,737.21
Machinery and Manufacturing Appliances	472,589.58
Street Mains	461,269.43
Meters	50,000.00
Works in Process	263,394.14
Total Structural Assets	$1,568,990.36

2349 On page 114 the daily capacity is shown to be 4,000,000, c. f., making an average cost per thousand c. f. of daily capacity of $392.25. The gross output of these works December 24, 1905, was 2,125,000 c. f. The annual output of these works is

439,162,251 c. f., or dividing this by 365 gives an average daily sales of 1,203,184 c. f. The water gas used as ordinary coal gas, 140,300,000 c. f. for the year. The population supplied was 97,434 in 1905. It is customary to divide the structural cost of daily output by 200 to obtain the required structural cost of the annual thousand feet sold, which in this case is $1.96.

Referring to the Fall River Gas Works, page 51 appendix of same report, we have:

Real Estate	$215,006.46
Machinery and Manufacturing Appliances	385,952.43
Street Mains	337,789.86
Meters	58,704.83
Office Furniture	2,648.18
Total Structural Assets	$1,000,101.76

By Mr. MATHEWSON:

Q. Is that the total structural assets or cost?
A. Yes.
Q. Which?
A. Both.
Q. Which is carried out in the report?
A. As assets.

The daily capacity of works is 2,500,000 c. f., making an average cost of a thousand c. f. of daily capacity $400. The gross output of these works December 24, 1905, was 1,509,000 c. f. The annual output of these works is 321,119,341 c. f., or dividing by 365 gives us a daily average sale of 879,779 c. f. No coal gas was used. The total manufactured being water gas. The population sup-
2350 plied was 105,762 in 1905. The structural costs required per annual thousand feet is $2.00.

Referring to the Lowell Gas Works, Page 80, Appendix of same Report, we have:

Real Estate	$804,741.08
Machinery and Manufacturing Appliances, Street Mains and Meters	620,619.12
Total Structural Assets	$1,425,360.20

The daily capacity of works is 4,400,000 c. f., making the cost per thousand c. f. of daily capacity of $323.95. The gross output of these works December 28, 1905, was 2,234,000 c. f. The annual output of these works was 482,088,600 c. f. Dividing this by 365 gives a daily average sale of 1,320,791 c. f. Of the gas made 235,271 c. f. was low carbureted water gas and the remainder was coal gas. The population supplied was 94,889 in 1905. The required structural cost per annual thousand c. f. is $1.62.

By Mr. MATHEWSON:

Q. Per thousand cubic feet of what? I don't understand.
A. Annual sales.

Q. Per thousand cubic feet of annual sales?
A. Yes.
Q. Not of capacity?
A. Of capacity. I beg your pardon.
Referring to the Worcester Gas Works, page 151, Appendix of same report, we have:

Real Estate	$536,477.34
Machinery and Manufacturing Appliances	626,399.51
Street Mains	114,278.44
Meters	19,415.75
Total Structural Assets	$1,296,571.04

2351 The daily capacity of works is 4,200,000 c. f., making an average cost per thousand cubic feet of daily capacity of $308.69. The gross output of these works December 24, 1905, was 20,196,000 c. f. The annual output of these works was 410,641,700 c. f., or dividing by 365, gives a daily average sales of 1,125,046 c. f. Of the gas made 226,400,000 c. f. were low carburated water gas. The remainder was coal gas. The population supplied was 128,-136 in 1905. The structural cost per annual thousand cubic feet capacity is $1.54.

It is of interest to note on page 117 of the Mass. report of 1905 that the total sales of coal gas in the State of Mass. for 1905 was 10,410,347,847 c. f. as against 13,283,163,767 c. f., in the island of Manhattan sold by the Consolidated Gas Company.

Tabulating these results we have:

Name of city.	Population served in 1905.	Total annual gas sales, c. f.	Structural assets.	Daily capacity, c. f.
Cambridge	97,434	439,162,251	$1,568,990.36	4,000,000
Fall River	105,762	321,119,341	1,000,101.76	2,500,000
Lowell	94,889	482,088,600	1,425,360.20	4,400,000
Worcester	128,135	410,641,700	1,296,571.04	4,200,000
Totals	426,220	1,653,011,392	$5,291,023.36	15,100,000
Average	106,555	413,262,973	$1,322,755.84	3,775,000

Cost per M daily capacity.	Greatest output, c. f.	Average daily sales, c. f.	Structural cost annual M. Divisor 200.	Structural cost annual M sales. Divisor 111.3.
$392.25	2,125,000	1,203,184	$1.96	
400.00	1,509,000	879,779	2.00	$5,291,023.36
323.95	2,234,000	1,320,791	1.62	1,653,012 M.
308.69	2,019,000	1,125,046	1.54	
$1,424.89	7,887,000	4,528,800	$7.12	
$356.22	1,971,750	1,132,200	$1.78	$3.20

2352 By Mr. MATHEWSON:

Q. If you will permit me to ask, do I understand by this that the assets represent $3.20 for each thousand of annual sales?

A. Structural assets, yes.

Q. And your average is obtained by dividing by four in each case, the total?

A. Yes.

By Mr. BURR:

Q. By using the divisor 200, what do you obtain?

A. In the above calculation, by using the divisor 200 we obtain $1.78 structural cost for annual thousand c. f. capacity, and using the actual sales we obtain $3.20 structural cost per M annual c. f. of sales, the divisor being 111.3. It is obvious if these works were run to their full capacity under the ordinary method of engineering that the structural cost obtained by a competent engineer would be $1.78, and also that the cause of the abundance of precaution used in establishing these works that a useless expenditure has been made of $1.42 per annual M c. f. of capacity. It will be observed that the greatest daily output, 7,887,000 c. f., is 1.74 times the average daily sales of 4,528,800. Further it will be observed that if we divide the daily capacity 15,100,000 c. f. by the greatest output, 7,887,000 c. f., we obtain 1.91, showing that the promoters of these works had over-estimated the greatest output of these works by 91 per cent. for 1905. Possibly they have intended to build their works so as to provide for the growth of population and the sales of gas for many years after 1905.

Q. Applying the result of your investigation into these companies to Exhibit 94, in this case what do you find?

A. Referring to Exhibit 94 we find gas sold and also made at the Consolidated Gas Company's stations 10,419,461,000 c. f.

2353 Referring to Chief Engineer Bradley's first affidavit, page 35, we find that he gives the capacity of the Consolidated Gas Company's plants at 51,000,000 c. f. per day. If we divide the first figure by the last we obtain a factor of capacity of 204, which proves that the present stations of the Consolidated Gas Company are run slightly beyond their average of standard capacity, as reckoned by Chief Engineer Bradley with a capacity factor of 200. This 200 has been used in the case of the Massachusetts Gas Companies and, therefore, the actual structural cost per annual thousand sold should be in the neighborhood or less than 1.78 for the existing works of the Consolidated Gas Company. If we multiply 10,419,461,000 by $1.78 we obtain $18,546,640.58 as the true and approximate structural cost of the Consolidated Gas Company's existing stations. Referring now to the gas made by other companies and sold by the Consolidated Gas Company, Exhibit 94, 2,863,702,000 c. f. and multiplying this by $1.78, we obtain $5,097,389.56, which is an amount justifiably invested in other stations and in the mains, service pipes and meters for distribution. Adding these two together, we obtain Consolidated Gas Company's Stations, $18,546,640.58.

Other investments in stations	$5,097,389.56
Or a total of	23,644,030.14

This is the fixed or structural investment which can approximately be claimed on the basis of the Mass. State's precedents for fixed or structural cost of the main and subsidiary plants controlled or acquired by the Consolidated Gas Company, which is to-day using a capacity factor of 204 which is slightly in excess of the standard capacity of 200. It is obvious that the above reasoning is based on the fact that if the plants of the Mass. Gas Company had been employed to their full annual capacity as is at present the
2354 case of the Consolidated Gas Company the proper actual structural cost would be $1.78 per annual M and the cost of the entire works required by the Consolidated Gas Company, from real estate through all details to meters, would be about $23,644,-030.14.

Q. Now in addition to the fixed or structural assets of a company is a certain amount of capital required for operating the works?

A. There is.

Q. And does that bear a certain relation to the annual sales of gas?

A. It has been stated to bear a certain relation to the annual sales of gas and it will therefore be necessary to learn from these Massachusetts companies the amount of capital per annual M. furnished by the stockholders and the amount ordinarily borrowed on short term notes or furnished in the form of consumers' deposits or unpaid bills.

Referring to Massachusetts Gas and Electric Light Commission's report for the calendar year 1905, we find the total assets of the four Massachusetts companies as follows:

Cambridge Gas Company	$1,742,581.88
Fall River Gas Company	1,228,760.41
Lowell Gas Company	1,732,486.24
Worcester Gas Company	1,439,444.77
Total	$6,143,273.30
Substracting fixed or structural assets	5,291,026.36
We have a Working Capital of	$852,246.94

Part of this Working Capital is obtained in the form of Consumers' Deposits, and part on short term notes and unpaid bills, as follows:

2355 Cambridge Gas Company—Consumers' Deposits	$11,415.00	
Cambridge Gas Company—Notes Payable	225,000.00	
		$236,415.00
Fall River Gas Company—Consumers' Deposits	$429.85*	
Fall River Gas Company—Unpaid Bills	13,580.92	
Fall River Gas Company—Notes Payable	180,000.00	
		194,010.77

*See correction on page 2562 $2,193 and Consumers' Deposits changed to "Interest accrued but not due."

Lowell Gas Company—Consumers' Deposits	$2,832.51	
Lowell Gas Company—Notes Payable	75,000.00	
Lowell Gas Company—Unpaid Bills	8,670.38	
		$86,502.89
Worcester Gas Company—Consumers' Deposits	$25,237.00	
Worcester Gas Company—Notes Payable	95,000.00	
		120,237.00
		$637,165.66

If we subtract the total of these floating liabilities, $637,165.66 from Working Capital, $852,249.94, we obtain $215,084.28, being the active capital furnished by the stockholders for the ordinary needs of the gas business. If we divide this amount by the total annual sales of 1,653,012,000 c. f. we obtain $0.13 per annual M. sold as the amount of capital actually and practically necessary on the part of these Massachusetts companies. If we multiply
2356 13,283,164,000 c. f. in Exhibit 94 by this, we obtain the proper allotment of active capital furnished by the stockholders of the Consolidated Gas Company from Massachusetts precedents, which is $1,726,811.32. These figures would appear to prove that the required and practical investment of the Consolidated Gas Company, provided it had built its gas works with the skill and prudence of Massachusetts engineers and managed its working capital by methods actually in existence in Massachusetts to-day would be as follows:

Fixed or Structural Assets	$23,644,030.14
Active Capital Furnished, or Quick Assets	1,726,811.32
Total Required	$25,370,841.46

Q. How close does that corroborate your former statement?

A. This figure closely corroborates my statement in my first affidavit, page 41, cost of property, $25,000,000. That is quite as closely as could be expected. Or the same affidavit, page 57, the entire cost of plants, $26,600,000. It would appear from the results obtained in Massachusetts as also from the deductions of the three commissions which have already——

Mr. MATHEWSON: Now——

Q. Never mind, leave that out. Now, do these four Massachusetts companies form a group resembling in any manner the group of Consolidated Gas Company's stations in the Island of Manhattan?

A. These four companies were selected because they formed a group resembling very closely the five stations in the Island of Manhattan, differing, however, in the fact that they were not driven to their utmost capacity, as Chief Engineer Bradley states. May I ask, Mr. Burr, in connection with the figure which I have just
2357 referred to of $25,370,841.46, that in referring to my other figures of $25,000,000 and of $26,600,000 that I did it for the

purpose of stating frankly that in averages of this sort it is necessary to allow a *liability** one way or another which sometimes may reach five, six and even ten per cent. above or below under conditions of this sort, and that my object in mentioning the $25,000,000 and the $26,600,000 in addition to this figure was to state clearly in advance that such variations and percentages are acknowledged as being right and often used by engineers.

Q. Now the Massachusetts stations have smaller sales of gas, have they not?

A. They have smaller sales of gas than the New York Companies, but they are engaged, as is the Consolidated Gas Company, in making ordinary coal gas and low carbureted water gas, requiring for this purpose like apparatus. Their actual structural cost per annual M. c. f. of capacity or of sales of gas, referring to the Massachusetts companies, will somewhat exceed the structural cost of the New York companies, even though driven to the same limit as are the Manhattan stations. Particularly in the matter of mains for gas distribution is the Consolidated Gas Company of New York favored by conditions and the cost of these mains of large diameter and delivering vast quantities of gas per annual thousand feet of sales should be very much less per M. c. f. than is the case in the Massachusetts gas companies. In the matter of the original cost of the real estate and apparatus, I mean the first cost of the real estate, the money that was paid for it by the original six companies, there would appear to be very little difference indeed.

Q. With the exception of the holders?

A. With the exception of the holders. In the matter of the
2358 holders, the rapid decrease in cost of holders per thousand cubic feet of capacity as their size has increased, gives the New York companies very decided advantages over the Massachusetts companies. We are justified in inferring, therefore, that in deducing the correct cost approximately of the Consolidated Gas Company's and subsidiary companies' investments, that we have not underestimated the investment required in New York City for actual structural cost.

Mr. BURR: May we suspend now and reassemble at two o'clock?

Recess until Two P. M.

After Recess.

WILLIAM D. MARKS resumes the stand.

Direct examination (continued):

By Mr. BURR:

Q. Doctor, have you finished as to the structural cost?

A. Before ending up with the structural cost based upon the Massachusetts estimate, I would like to say that my estimate of $25,370,000 and my estimate of $26,600,000 are estimates, and making all possible allowances for differences in the locality, and also for the

*Variation; see correction on page 2561.

difference between the gas made and the gas sold, I am positively of the opinion that the actual structural cost of the works of the Consolidated Gas Company is less than the twenty-nine to thirty millions fixed by the Gas and Electricity Commission of New York State.

2359 Q. Now, we will take up the real estate account so far as it has been presented here. Have you made an examination of the statements and have you heard the testimony or read the testimony which has been given here with regard to the real estate of the Consolidated Gas Company?

A. I have.

Q. Will you state what conclusion you came to from such examination as to the value of the real estate.

Mr. MATHEWSON: I object to this, Mr. Master. The witness clearly has not been qualified as a real estate expert, he is incompetent to testify, not qualified to give an opinion.

The MASTER: The question seems a little bit wide open, Mr. Burr, does it not?

Mr. BURR: He is not testifying as a real estate expert, but he is testifying as to what, by a proper arrangement of the accounts that have been presented here, in his opinion as a gas expert, fully familiar with the works and the operation of the company and the testimony that has been given, the real cost still continues to be of the real estate.

The MASTER: If you want to show by him that any part of that real estate is not desirably situated or not advantageously situated for the purposes of use in a gas plant, or that it is wastefully employed or anything of that kind, why that is right enough; you can ask him that; but to ask him if he has heard the testimony of the real estate experts as to the value of this property and ask him what conclusion he came to, without showing that he has any knowledge of real estate values, that is going pretty far.

2360 Mr. BURR: I am not asking him to testify to the value of the real estate, but I am asking him whether he has examined the real estate account as presented here.

The MASTER: There is nothing to show here that his conclusion is of any importance on the subject one way or the other. That is the difficulty with your question.

Mr. BURR: There are certain exhibits here which he has studied and he has arrived at certain conclusions from those exhibits. Now I think he is entitled to express the conclusion he has arrived at from the study of those exhibits.

The MASTER: Not unless you point out in what respect his conclusion is material or relevant.

Q. State's Exhibit S., page 728 C., give the real estate as $10,929,918.28. I call your attention, doctor, in that connection to the exhibit——

A. I have it. Balance sheet December 31, 1905.

Q. What is the real estate given there as?

A. Real estate $10,879,329.63; real estate M. $50,588.65. Total $10,929,918.28.

Q. Now, referring to that, I call your attention to City's Exhibit 48, Senate Document 47, 1886, page 779. What do you find to be the valuation given by Mr. Yalden, the accountant, of the real estate on the books of the Consolidated Gas Company?

Mr. MATHEWSON: I think I shall have to object. I do not see that it makes any difference what the witness finds in that exhibit to be stated. It obviously cannot be followed up by any testimony of the witness as to the valuations, and whatever appears does appear.

Mr. BURR: Well he is going to arrive at a conclusion and I think I am entitled to have spread on the record just what methods
2361 he has resorted to to arrive at his conclusion. His statement appearing offered here that such a value is placed upon the real estate for the year 1905 he takes the valuation of the same real estate that is fixed in 1884. Naturally it may have increased or it may have diminished. Now he reasons from that to a certain other conclusion and he reasons from the fact that part of that real estate that was originally the property of the Consolidated Gas Company appraised by Mr. Yalden at a certain figure has been taken by the City and paid for, which would naturally leave a certain other figure as the real estate remaining, and upon that he arrives at his conclusion as to what effect that has upon the price of the production of gas and the propriety of the charge made by the Consolidated Gas Company based upon the value of their real estate as given here.

The MASTER: What I do not understand is why that all is not a matter of argument and a matter of brief making. Why is it necessary to call a witness and put him on the stand and ask him what he thinks about it? You have got the facts here. You have got the Yalden report here. If the point is one in which the peculiar knowledge and experience of the witness as an expert in the gas business comes into question that is one thing. Then I think you are probably quite right.

Mr. BURR: I want to ask as to the structural value of this real estate and that is in line with his previous testimony.

The MASTER: I am not disposed to limit you at all, and I do not want to encourage any making of technical objections, although some of these questions are very objectionable, no doubt, as
2362 far as the point of view of the laws of evidence is concerned. I do not want to cut you off, but at the same time it seems to me that this is getting a little beyond the ordinary line. I am perfectly willing and I think it is right that you should bring out here whatever you want to, the way of showing Dr. Marks' criticisms from the standpoint of a gas expert on the methods according to which the other side have made up their estimates of cost. Now if you can point out by some question here what the point is that you want to bring out here regarding these real estate values so as to bring it within that rule, I do not think there would be any objection. If so, I should overrule it.

Mr. Burr: I will ask the one question and then leave it to them to cross-examine.

Q. From your examination of the real estate accounts or data, so

far as they have been presented or supplied by the Consolidated Gas Company, what do you find to be the approximate constructural cost of the real estate remaining in use by the Consolidated Gas Company?

Mr. MATHEWSON: Objected to, for the same reasons. He confessedly is proceeding upon an exhibit which has been offered in evidence and which states whatever it does state, and the witness is not shown to be qualified to draw any conclusions as to the value himself.

The MASTER: It is apparent from that question that it must argue out some sort of theory based on these facts. I will let him answer it.

Mr. MATHEWSON: Exception.

2363 A. I find by a careful examination of the transcript furnished by the Consolidated Gas Company, and also of the accounts of J. Yalden of the individual companies, that the actual structural cost of the real estate remaining in active use for the purpose of gas making of the Consolidated Gas Company amounts to approximately $3,068,140.51.

Mr. MATHEWSON: I move to strike that out, Mr. Master, as a statement of opinion by this witness upon a subject respecting which he is incompetent to testify, not qualified in any sense. We might as well put on any one of our officers who had more experience in the gas business than this witness to testify as to the value of real estate. I do not know where we will come out if we are going to do that.

The MASTER: I will let it stand.

Mr. MATHEWSON: Exception.

Mr. BURR: We have made demand for that account and our demand was not complied with. We are doing the best we can with the material you supplied.

Q. Is that after you have made allowances for the pieces of property which have been sold or condemned by the city or are in process of being condemned and taken by the city?

A. It is after making allowance of the property sold or abandoned by the Consolidated Gas Company.

Q. What do you find the total of such property to be?

A. About $1,985,874.34. In round figures two million dollars.

Q. Give the details of that amount or that total.

2364 A.

Little Italy Park, 111th and 112th Street, Harlem	$365,000.00
Purchased by New Amsterdam Co., (Exhibit 48)	180,000.00
Condemned by City, Bulkheads 21st and 22nd Street.	247,858.00
Abandoned Because of Condemnation Proceedings by City, Bulkheads 16th, 17th and 18th Street	317,100.00
Land, 18th St. Station, Parcel 4, Exhibit 48 and 49, Valuation, City Expert	875,916.37
Purchased by Standard Gas Light Co., Exhibit 48, Price Not Given	
Total	$1,985,874.37

Q. That does not include the piece of property purchased by the Standard Gas Light Company, Exhibit 48, on which the price is not given?

A. It does not, nor does it include the piece of land purchased of John D. Crimmins.

Q. The total of real estate, bulkheads and office buildings as appearing in the account of Mr. Yalden on page 779 (1401 in Exhibits) of City's Exhibit 49, appears to be:

Real Estate	$8,617,000.00
Bulkhead Piers and Water Rights	1,390,000.00
Office Buildings	325,000.00
Total	$10,332,000.00

And at page 674 (1272 in Exhibits) the value of the same real estate belonging to the various companies consolidated appears to be given as follows:

2365 Page 674, Manhattan Gas Light Company	$930,872.45
Page 712, New York Gas Light Company Exhibits P. 1334	1,957,000.00
Page 734, Metropolitan Gas Light Company Exhibits P. 1356	1,445,779.79
Page 748, Municipal and Knickerbocker Companies. Exhibits P. 1360	561,462.88
Page 760, Harlem Gas Light Company	158,899.81
Total	$5,054,014.88

Do you deduct the total of the property condemned and sold, $1,985,874.37, from the $5,054,014.88?

A. I do.

Q. And you then obtain the $3,068,140.51, as appears?

A. I do.

Q. (Continuing:) In the account of Yalden to have been the original cost to these companies of such real estate?

A. As taken from the books of the original six companies.

Q. Now, will you take up plants, tanks and holders, foundations and damages as they are given on State's Exhibit 8?

A. It is given as $16,175,382.67.

Q. Referring again to City's Exhibit 48 of this date, I find on page 674 of Mr. Yalden's report:

Page 674, Manhattan Gas Light Co., Manufacturing, Building	$447,819.00
Page 674, Manhattan Gas Light Co., Apparatus	1,890,810.82
Total	$2,338,629.82
Page 712, New York Gas Light Co., Works and Apparatus	2,893,767.35
Page 734 (see page 847), Metropolitan Gas Light Co., Construction	2,608,195.64

Page 748, Municipal and Knickerbocker Co.'s Gas Works	$2,327,330.32
Page 750, Harlem Gas Light Co., Buildings in Construction	569,495.57
Total	$10,737,418.70

2366 Q. Now, referring to Complainant's Exhibit 89, page 371, what is the statement made in that exhibit as to the increase in the real estate, plant, property and construction since 1884?

A. Complainant's Exhibit 89, comparative condensed balance sheet, real estate, plant, property and construction, variations, meaning by that increase, $9,693,565.90.

Mr. MATHEWSON: Beginning from what time.

The WITNESS: From November 11th, 1884, to October 31st, 1905.

Q. And is the increase in the value of the real estate stated by the books, given?

A. The increase in the value of the real estate stated by the books——

Q. What books?

A. Of the Consolidated Gas Company is $597,918.28.

Q. Making a total of what amount?

A. Which leaves according to accounts $9,095,647.62 for additions exclusive of real estate applied upon plant, property and construction.

Q. Now, will you refer to Exhibit 81, at page 350?

A. Exhibit 81, October 31st, 1905—shall I give the figures?

Q. Yes.

A.—

Mains	$7,852,151.03
Services	1,212,071.09
Meters	3,802,544.50
Total	$12,866,766.62

Q. What do you find the same items appraised at in Exhibit 48 of the City?

Mr. MATHEWSON: They were not appraised.

Mr. BURR: Well, stated to be.

Mr. MATHEWSON: They were what they stood on the books of the original companies, according to the testimony.

2367 A. In Senate Document 47, page 652:

Mains	$5,217,000.00
Services	1,005,000.00
Meters	1,195,000.00
Total	$7,417,000.00

Q. A difference in the increase then claimed by the Consolidated Gas Company of $5,449,766.62?

A. This being the difference between those two totals.

Q. If you subtract that amount of $5,449,766.62 from the amount of $9,095,647.62 what do you obtain?

A. $3,645,881, and that is a residue which is claimed to have been applied upon the manufacturing plants and holders.

Q. Making a total of how much?

A. Making a total of $14,385,299.70 as against $16,175,382.67.

Q. For what?

A. For the value of the manufacturing plant and holders.

Q. Now I refer you to the testimony of Mr. Mayer as it appears at page 1381 regarding the value of the abandoned plant at 18th Street. It is stated by him to be $1,508,035.00. As you have stated it, it appears to be $569,495.57, as the value in 1884 of the abandoned plant, 112th Street, Harlem, of which the holder now remains?

A. That is correct.

Q. What do you find the total to be?

A. The total property abandoned, that is, out of active use, amounts to $2,077,530.57.

Mr. MATHEWSON: What kind of property?

The WITNESS: The abandoned plant at 18th Street and the abandoned plant at 112th Street, Harlem.

Q. Now, if you deduct that from the $14,385,299.70, what do you find to be the remainder?

A. It leaves $12,307,769.13 for the value of the actually
2368 operating and going manufacturing plants and holders of the Consolidated Gas Company.

Q. Calling your attention to the testimony of Mr. Simpson regarding the mains, do you find any discrepancy between the number of miles in use and the amount previously stated as being operated by the Consolidated Gas Company?

A. It would also appear from the testimony of Mr. Simpson that instead of 822 miles of active mains there are 795 miles, a difference of 27 miles of mains, of sizes which have not been specified by him.

Q. Well, what have you to say with regard to that, the subject of mains?

(Witness produces chart.)

Q. You produce a chart, Doctor. Does that show the estimated cost of laying gas mains in 1905 of all sizes and descriptions as stated to be in use by the Consolidated Gas Company in that year?

A. It is the estimated cost of laying mains during the year 1905, and is the result of the accumulation of a very large amount of data at various times and finally putting it in the form of a chart which enables us to immediately learn the cost of any size of main under any pavement that is in ordinary use per lineal foot laid with the surface restored. It has been used and checked in a good many different ways by a good many different authorities.

Mr. MATHEWSON: Well, they are not here, the authorities are not here, except you, Professor.

Q. Well, will you explain a little further what this shows, more in detail?

A. For instance, beginning at the bottom the prices of 10 cents, 30 cents, 50 cents and 90 cents up to $1.00 are laid off in the first half and the prices from $1.00 on to $25.00 are laid off in
2369 the second half or right hand side; the sizes of the various mains placed under consideration, that is to say their diameter in inches, is laid off vertically beginning with the 2 inch and running through as far as a 60 inch diameter main. The method of using it is to select the size of main as for instance a 36 inch main and tracing the horizontal line from 36 inches across, find out the cost per lineal foot where it intersects the heavy lines or curves shown. As for instance, the cost per foot of straight pipe not laid of 40 inches diameter, is $6.48; the cost of the same pipe per foot in streets with macadam tops laid and restored is $9.65 and so on through.

Mr. MATHEWSON: What is the $9.65?

The WITNESS: Beginning at 36, and then off horizontally, $9.65 for a 40 inch pipe per lineal foot laid. This chart has been used in computing the lengths and sizes of pipes put down as stated by Mr. Simpson and his statement checks out to within a very small percentage as being as near as an engineer can come to being entirely correct provided the lengths and sizes given are correct.

Q. As given by Mr. Simpson?

A. Yes.

Mr. BURR: I offer it in evidence.

Mr. MATHEWSON: Then this corroborates him instead of contradicting him, so far as it goes?

The WITNESS: Mr. Simpson's statements are correct so far as the lengths and diameters put down are given.

Mr. MATHEWSON: I should like to ask the witness one or two questions before the chart is received in evidence.

Mr. BURR: I have no objection.

2370 By Mr. MATHEWSON:

Q. Have you ever laid any mains in the City of New York?

A. I have not.

Q. Where have you ever laid mains?

A. In St. Louis.

Q. How long ago?

A. Some thirty years ago.

Q. Have you laid any since anywhere?

A. In Durham some two years ago.

Q. Durham, North Carolina?

A. Durham, North Carolina, some two years ago.

Q. Were there asphalt streets there?

A. No. And in Fostoria, Ohio.

Q. How long ago,

A. Four or five years ago.

Q. Did you yourself lay them or were you the superintendent of the laying at that time in Fostoria?

A. I did pretty nearly everything but dig the ditch and caulk the pipes.

Q. Did you meet there the rock conditions you meet in New York City?

A. No rocks there at all. That is provided for, however, in the chart.

Q. How many miles of mains did you lay in Durham and Fostoria?

A. Some ten or twelve miles, if I remember rightly, in Durham and in Fostoria there was something more, I cannot recall it now.

Mr. MATHEWSON: I press my objection, Mr. Master. It does not seem to us that he is qualified to state the cost of laying mains in the city of New York, and I make the objection as a matter of principle, although it corroborates Mr. Simpson, because I do not think the witness is justified in making it.

The MASTER: I will overrule the objection.

Mr. MATHEWSON: Exception.

Mr. BURR: It corroborates Mr. Simpson to a certain extent.

Mr. MATHEWSON: Fully as to prices and cost.

2371 Paper received in evidence and marked City's Exhibit 50.

The WITNESS: May I go on?

By Mr. BURR:

Q. Yes.

A. It has been stated repeatedly in the evidence that these mains are largely duplicated, sometimes triplicated and sometimes quadruplicated in the streets of New York City——

Mr. MATHEWSON: I move to strike that out, Mr. Master. I do not think it is a correct statement, and if it were it would not add anything to the testimony, whatever it is.

Mr. BURR: He is going to base something upon that statement. Do you want to strike out the original statement?

The MASTER: I do not think you will save a great deal of time by making these objections, although I think most of them are well founded, but I think you had better go on and let the Doctor make his speeches——

Mr. BURR: I do not think he is making speeches; he is giving testimony. If he has to give it in the form he is now giving his testimony, it is due to the fact that the Company has refused to allow him access to the books and——

The MASTER: If the evidence shows that it is a fact that the mains are duplicated, it is not necessary to call a witness to testify to it.

Mr. BURR: He is going to base some testimony on that fact.

The MASTER: But that is not the question you have asked him, which is a different thing.

2372 Q. Proceed, Doctor.

The MASTER: The motion to strike it out is granted. It is not responsive to any question that I know of.

Q. What is this other diagram that you have prepared?

A. It shows what a system of mains laid as a substitute for a duplicate system would cost, on the same chart.

Mr. BURR: I offer that in evidence.

Mr. MATHEWSON: I object to this. No foundation has been laid for any such table or testimony as this. It does not appear where mains have been duplicated or between what streets, and the witness is not competent or it seems to me to testify as to laying a duplicate set of mains. He is not familiar with the requirements of this city and could not possibly be, or with the location of mains.

The MASTER: I will take it.

Mr. MATHEWSON: Exception.

Paper received and marked City's Exhibit 51.

Q. Now will you explain this diagram, City's Exhibit 51 in detail, Doctor?

A. Taking the total cost minus 15 per cent. contractor's profit and the statements as to lengths and sizes made by Mr. Simpson, a computation, assuming the pipes to be under cobble pavement as an average, is $7,901,682.26, which is very close indeed to what he has stated. Taking a single pipe substituted of equal or greater capacity than a double pipe we obtain $5,935,155.12 or in round figures about $2,000,000.00 less cost for a regularly laid out system of mains of equal or greater capacity.

Mr. MATHEWSON: What is this total cost?

2373 Q. Than is charged by the Consolidated Company here?

A. Than is charged by the Consolidated Gas Company here.

By Mr. MATHEWSON:

Q. What is this total cost?

A. It approximates to their taxed cost.

Q. What is your total cost, $6,982,535.44?

A. It includes the contractor's profit you know, which Mr. Simpson did not make.

Q. Will you turn your attention to the meter account presented by the Consolidated Gas Company, page 1904. What items of——

A. I find under the head of meters, scows $19,816.15; gas stoves $287,619.77, a total of $307,435.92, which can bear no possible relation to meters or their expenses.

Q. Then as the result of this analysis, what have you found with regard to these items of land, manufacturing plants, mains, services and meters?

Mr. MATHEWSON: What do you mean by that?

Mr. BURR: Adding up the totals that he has now given.

A. Land, $3,068,140.51; manufacturing plants and holders, $12,866,766.62; mains, $7,700,151.03; from which should be subtracted, if a duplicate system is deemed improper, about two million dollars; services, $1,212,071.09; meter, less scows and gas stoves, $3,495,108.58.

Q. A total of——

A. A total of $28,342,237.83.

Q. And deducting the $2,000,000 to which you referred?

A. $26,342,237.83.

Q. What does that represent?

A. This is the structural cost of the active stations of the Consolidated Gas Company so far as it can be gathered from the books.

Mr. MATHEWSON: By you.

2374 Q. So far as it can be gathered from the testimony?

A. And from the books accessible.

Q. And the exhibits here?

A. And the exhibits here. The discussion and investigation was made more particularly for the purpose of locating the sophisticated accounts.

Q. How does that compare with the structural cost required from the Massachusetts precedents that you have testified regarding?

A. When comparing with the Massachusetts precedents, it gives a structural cost of about $5,000,000 more than that obtained from the Massachusetts precedents.

Q. And that is not adding the $2,000,000 which you say should be deducted from the mains?

A. No.

Q. So that would make $7,000,000,

A. $7,000,000—no, it would make three millions more, not seven millions.

Q. Now, if you use the valuation that has been given of the existing Consolidated Gas Company's stations, $18,546,640.58, and subtract it from your figures just given, what do you find?

A. If we subtract $18,546,640.58 from the $28,342,237.83 we obtain $9,795,597.25, and it is probable that the proper cost in Massachusetts precedents is somewhat less, making every allowance, than the $29,000,000 to $30,000,000 stated by the Gas and Electricity Commission.

Q. How can exact figures be obtained with regard to these matters you have been testifying to?

A. By a careful inventory of the works as they stand and by a thorough examination of the books continued back through every book to the vouchers and checks and check stubs, and only in that way.

Q. Now, will you, so we may have the record complete, briefly give us a resume of your statements as given here?

A. In 1905 the sales of gas in the Borough of Manhattan
2375 amounted to 19,540,343,000 c. f., of which the Consolidated Gas Company sold 13,283,164,000 c. f. or about 68 per cent. If the Consolidated Gas Company and other gas companies accept 80 cents to private consumers and 75 cents to the City, the sales of gas in 1907 on the Island of Manhattan will amount to 22,569,,-846,000 c. f., of which the Consolidated Gas Company will sell about 15,340,000,000 c. f., realizing a gross revenue of $12,274,000.

From the unverified figures of Complainant's Exhibit 94, summary of operations for the calendar year of 1905, it would appear as if the cash cost of gas had been about 53½ cents, and might be anything below this to 44 cents per M. c. f. of sales at the consumer's meter for gas averaging 23.1 c. p.

Using English accountants' methods for computing the cost of gas and the unverified and doubtful items of Complainant's Exhibit 94, summary of operations for the calendar year 1905, the apparent cash cost of gas is found to be 53.51 cents per M. c. f. of gas sold and the total net earnings $6,175,342.94 as against net earnings $4,587,-995.99 (Complainant's Exhibit 96) or a somewhat larger sum, $4,-765,670.00, derived from the figures of Messrs. Addicks & Humphreys.

With the price of gas at 80 cents and its cost at 53½ cents, the net earnings for 1907 will be $4,065,895.00, or if we take the cost of gas of 22 candle power as found at Chicago to be 45½ cents per M. c. f. of sales, we would have a net earnings of $5,293,335.00.

The matter of a reserve fund of five cents per thousand cubic feet of sales claimed by Pres. Alexander C. Humphreys and for three cents per thousand cubic feet of sales as claimed by Vice-President Walter R. Addicks can well be eliminated since it is clearly shown
that a very large surplus accumulated by the Consolidated
2376 Gas Company from the profits of its business has been invested in other enterprises, from which any future surplus required could be obtained.

The matter of an extra allowance for oil for increased illumination is also shown to be unnecessary, since the average illuminating power for the first six months of 1905 is proved to be 22 candle and for the last six months to be 24.19 candles. The excessive use of oil at prices far above those obtained by many lesser companies has added considerably to the apparent cost of 53½ cents per thousand cubic feet of sales.

Concerning the actual structural cost of gas works, it appears that so far as the stockholders were concerned in the consolidation of 1884 nothing was sold and nothing was paid for in money. The only things that were done were to produce an exaggerated inventory of the cost of the works and then to sophisticate the new books of the Consolidated Gas Company to conform to the fictitious capitalization effected.

It was simply a case of the old firm trading under a new name with 2.3 times as much capitalization.

A careful comparison of the structural cost of the four gas companies operating in Massachusetts, has revealed the fact that under similar conditions to those to-day existing in the works of the Consolidated Gas Company, their structural cost is $1.78 per annual M. c. f. of sales or of capacity, and the total cost of the works of the Consolidated Gas Company should be $18,546,640.58 with an allowance of $5,097,389.56 for investment in other companies or additional structures and an active capital of $1,626,811.32 required for the operation of the works, making a required total of $25,670,841.46.

The investigation of the accounts of the consolidated Gas Company has not been possible in any proper sense, but the frag-
2377 ments accessible have been used primarily to show in instance after instance the sophistication of nearly every account which has been presented in any form in the testimony given by the witnesses of the Consolidated Gas Company.

Mr. MATHEWSON: I move to strike out the last statement of the witness.

The MASTER: Strike it out.

Q. What would you say with regard to the capitalization of the gas companies on the Island of Manhattan being limited to less than $2.00 per annual thousand.

Mr. MATHEWSON: I do not understand the question. I think if I do, it is objectionable.

(Question read by Stenographer.)

Mr. MATHEWSON: This is not a question of what capitalization shall be issued by the companies. It is a question, it seems to me, of value of property and returns upon that property.

The MASTER: I do not understand the question. Will you read it?

Mr. BURR: I will withdraw the question.

Q. As the result of your experience and your study of the situation as presented here by the testimony and the exhibits and your study of the proceedings before the Gas Commission and before the Commission of 1885 and 1886, what in your opinion should be the capitalization per M. fixed for gas companies in the Island of Manhattan?

Mr. MATHEWSON: Objected to as irrelevant and immaterial, and the witness is not competent to testify.

The MASTER: Well, that is probably all true, but I will
2378 let him answer and give you an exception.

Mr. MATHEWSON: Exception.

A. I should be inclined to fix the limit to capitalization of gas companies situated as is the Consolidated Gas Company and the other gas companies also on the Island of Manhattan to not more than $2.00 per annual M. c. f. of gas sales.

Q. And have you any opinion to express with regard to the advisability of adopting a system of accounting similar to that used by the English gas companies, than that which reveals itself to be used by the Consolidated Gas Company in the testimony presented here?

Mr. MATHEWSON: Objected to as immaterial and irrelevant. I do not want to make technical objections, but it is worth while for us to call witnesses to show that they think otherwise?

The MASTER: I do not think that is valuable, and if you want to press it, I will sustain the objection.

Mr. BURR: In other words, as the result of his experience and previous study of this subject——

The MASTER: No doubt they could improve their methods. Everybody can. There is no question about it. That is all it amounts to. He thinks it would be better to keep their books in the English style rather than the way they do.

Mr. BURR: Yes.

The MASTER: What difference does it make if he does think so?

Mr. BURR: I thought it might be interesting.

2379 The MASTER: I will sustain the objection and you may take the answer.

Exception.

A. Both for the sake of the company and for the public, it appears to me an imperative need that the accounts of the quasi public corporations should be kept after the manner, although perhaps varying in detail, prescribed by Acts of Parliament in England and that there should be the same publicity, not only to the stockholders but to the public, insisted upon in the opening of accounts to the authorities, to the justices and to the general public, if they are willing to pay the trifling sum demanded for the printed accounts.

Q. Have you the English Statute to which you refer, Doctor, handy?

Mr. BURR: This I might say is nothing new and is entirely pertinent to this inquiry because I find before the Commission in 1886 that a recommendation similar to the one he now speaks of was made and a form of the English accounting system was attached to the report. I won't bother about offering that in evidence, but I want to call attention to this statute which exists.

The WITNESS: Referring to Michael & Will on the law relating to gas and water, page 219, Model Gas Bill as amended in 1900 prescribed——

Mr. MATHEWSON: What edition?

The WITNESS: Fifth edition. Model Gas Bill prescribed the form in which franchises——

By the MASTER:

Q. What Act of Parliament is it?

A. Companies Clauses Act, 1863, was amended by subsequent acts and the Gasworks Clauses Acts 1847, 1871, Companies

2380 Clauses Consolidated Act of 1845, except the provisions relating to the conversion of borrowed money into capital. Pages 220 and including 228. That is in this third edition of Will.

Mr. BURR: I offer in evidence the Gasworks Clauses Act of 1847, Tenth Victoria Cap. 15, an Act for consolidating in one Act certain provisions usually contained in Acts authorizing the making of gasworks for supplying towns with gas, appearing on pages 36 and the following pages of Reeson's Complete Gas & Water Acts, 1817 to 1902, published in London by Butterworth & Company, 1902. I am referring to the modern Gas Bill as amended, 1900, used in England, as the same is printed on page 220 of Michael & Will on the law relating to Gas & Water, fifth edition by J. Shiras Will, K. C., published in London by Butterworth & Company, 1901.

Not marked in evidence.

Q. Now, something has been said here with regard to electrolysis, and were you here when Mr. Simpson testified regarding that?

A. I was.

Q. You heard his testimony?

A. I did.

Q. And you heard him testify that he in two instances found what he thought to be electrolysis effects upon the mains at two different points. Is it a fact that the effect described by him as he was informed by the expert who examined these mains was found, namely, pits in the mains. Is it a fact that that is due entirely or solely to electrolysis?

A. The formation of pits in cast iron gas pipe and sometimes in steel pipe was going on long before the wandering earth currents due to trolley systems and other power systems were in existence.

2381 Wherever a main is laid in alkaline soil and wherever this alkaloid comes in contact with the iron and carbon of cast iron it is very apt to produce pits. That is there is an iron and carbon alkaline battery going on. This is nothing new. It was written about half a century ago and it does not necessarily follow that a power current is required to produce the peculiar form of pitting called electrolysis, because the iron itself in conjunction with an alkaline fluid can do it without any assistance from the outside.

Q. Is there any well known authority who made reference to that situation as you have stated it?

A. There is. I take a very old book on gas engineering, Hughes & Connor, Gas and Gas Works, London. On page 302——

By the MASTER:

Q. London, what is the date? What is the imprint there?

A. There does not appear to be any date on it. This edition was printed in 1904. It was written a good many years ago.

By Mr. BURR:

Q. Proceed.

A. Page 302 (reading:) "There are, however, certain destructive "agencies which materially affect the durability of mains. But it is "said that the worst of all ground in which pipe can be laid *in* that "containing, ashes, cinders and moisture. In these the pipes are "speedily covered with marks throughout similar to pock marks "some of them eventually penetrating the metal.

"This action is undoubtedly due to the electrical agency by each "of the numerous particles of carbon being in contact with the iron, "which aided by the moisture form little batteries and produce rapid "decay."

2382 Q. So that the so-called electrolysis affected gas and water mains long before the trolley systems having return earth currents of electricity were in use?

A. It did, and consequently you cannot say what would have been done if there had been no wandering earth currents.

Q. And under the conditions you have read there electrolysis *is* will affect pipes in the absence of return earth currents?

A. In the absence of return earth currents.

Q. What is your opinion as to their being any danger in the future of electrolysis to the Consolidated Gas Mains?

A. It appears to be very slight, shall I give my reasons?

Q. Yes, sir.

A. If we take the case of the subway, all electrical engineers take particular pains to make a return circuit through their rail as perfect as they possibly can, either by bonding the ends of the rail with copper bands or by cast joints or by solder joints, so as to allow the current to come back as rapidly as possible to the dynamo which has generated it. The object of this is economy. They desire above all things not to lose power and if the return of the current is obstructed the consequence is that the power is lost in getting back to the dynamo. But assuming an imperfect joint or rail in the subway the structure itself has involved the use of a vast amount of iron, thousands and thousands of tons, and it is much easier for the current, if it has to leave the rail, to take the iron track of the subway than it would be to go off and hunt up a pipe somewhere. Now that is equally true with regard to the surface railways. The con-conductors for the surface railways in New York are laid in immense cast iron conduits weighing a great deal and of very great thickness and strength. If the current has to leave the rail the gas or water main is as nothing in presenting a direction to the current as
2383 compared with this immense conduit, and this immense conduit leads directly back to the neighborhood of the generator or dynamo; and, of course, in the case of the elevated railroad, if the current has to leave the rail there, I do not see how it is possible for it to get off the vast mass of iron that leads back. It is a well known law of electricity that the amount of current is inversely in proportion to the resistance. That is to say, an electric current will not take one channel and run along as a stream of water does. It divides itself inversely as to the resistance which is opposed to it; the less resistance the bigger the amount of current. Now it would be hard to find anything that would present less resistance than the enormous iron work of which the subway is constructed, the large cast iron conduits of the surface railways or the complete iron structure of the elevated railway. And so the pipes will probably be left alone for all time.

Q. You heard the testimony of President Humphreys regarding the necessity in his opinion for an allowance of five cents extra to be collected from consumers for the reserve fund?

A. I have.

Q. What have you to say as to that?

A. It would appear to me that President Humphreys neglected to place any limit as to the length of time within which this five cents extra should be collected from the consumers. He also neglected to place any limit as to the amount of accumulation which should cause an end to the collection of five cents extra per thousand cubic feet from the consumers. He also overlooked the fact that under ordinary conditions there was either in cash or invested a very large surplus due to the immense surplus profits of the Consolidated Gas Company in current years.

Q. Did he fix any sum for insurance and reserve for which any further charge should be made of five cents per thousand cubic feet for reserve?

A. He did not.

2384 Mr. MATHEWSON: Is it worth while to get the witness to testify to that when he has directly contradicted the testimony? Professor Humphreys distinctly stated it would be limited to 10 per cent. on the capital.

The MASTER: Well, Mr. Mathewson, if that is all so, so much the better for you when you come to make your argument.

Mr. MATHEWSON: It shows the very cursory examination of the witness, to make a statement of that kind.

Q. Do you know what candle-power the gas that is used in Philadelphia is?

A. 22 candle-power.

Q. That is the same candle-power as called for by this law in question here?

A. It is.

Q. What is the cost of the gas in Philadelphia, if you know?

Mr. MATHEWSON: I would like to ask the witness whether he has any personal knowledge on the cost of gas in Philadelphia for the year 1905?

The WITNESS: I was going to say to Mr. Burr that I had no knowledge of the books or the cost of producing gas in Philadelphia. I have knowledge only of the price at which it is sold. I have an opinion, however.

Mr. MATHEWSON: Oh, well, that is another thing.

By Mr. BURR:

Q. What is your opinion as to the probable cost of the gas as manufactured and sold in Philadelphia and state the ground for your opinion?

Objected to.

Objection sustained.

Exception.

2385 Q. I believe you have been supplied with some data by the officials of Philadelphia with regard to the manufacture and sale of gas in that city?

A. I have been supplied with complete data with reference to the sale of gas in the City of Philadelphia by the Mayor and by the Director of Public Works.

Q. Now, as a result of the data so supplied to you and which is incorporated in the affidavit made by you, submitted to Mr. Justice Lacombe, have you arrived at any opinion as to the cost of gas in Philadelphia?

A. I have.

Mr. MATHEWSON: Objected to.

The MASTER: Now, Mr. Burr, do we want that? You know if it is in his affidavit it is already before me under the Equity rule.

Mr. BURR: I am unwilling to waste a moment. That whole subject was gone into in his affidavit, so I shall not pursue it any further.

Mr. MATHEWSON: Do I understand, Mr. Master, that statements

of that sort in the affidavit, are evidence upon which he can present and make a finding?

The MASTER: No, it is before me to show that such an affidavit was made containing such-and-such statements and what was before the Court. I can make a finding to that effect, that an affidavit of such a date, presented on the motion herein, did contain so-and-so and was according to such statements. Of course, it is not primary proof of the facts contained in the affidavit. But, of course, neither would the testimony of the Doctor to-day be. That is my only point, that his testimony could not add anything to what was already in his affidavit.

Mr. MATHEWSON: The point I had in mind was this, if that was to be taken as proofs of the facts and we had not in our affi-
2386 davit met those facts for the reason either that we did not consider it material or for other reasons, that then would leave it uncontradicted, and we should not be put in that position.

The MASTER: No, it would have no evidentiary force at all.

Q. In the affidavit which I have referred to you stated in your opinion that the price at which gas was sold in the City of Philadelphia during the past four years under an arrangement which the U. G. I. or the United Gas Improvement Company had with the City, was 78.1 cents per thousand cubic feet of gas.

A. I did.

Mr. MATHEWSON: Now wait a minute. I object to the testimony of the witness on that subject unless he knows something about it.

The MASTER: The question is not finished yet, as I understand it. It may be superfluous, as the affidavit is already on the files in the case. I understood it was preliminary to asking some question and on that understanding I allow it?

A. I did.

Q. Upon what information or investigation did you base that statement?

A. I based that statement on authoritative documents furnished by the Director of Public Works of Philadelphia, and duly verified.

The MASTER: That all appears in evidence, doesn't it?

Mr. BURR: You just said it was not evidentiary proof and I naturally want it as a piece of evidence.

The MASTER: His statement is not any higher quality of proof than the affidavit.

Mr. BURR: I should like to have the answer.

2387 A. It was duly verified by public officials.

By the MASTER:

Q. It is hearsay, as far as you are concerned. You have no knowledge of it?

A. Why not at all. It was a duly verified document which was sent to me. If that is hearsay, all right.

The MASTER: I am speaking from the legal standpoint. From that standpoint it is what we call hearsay.

By Mr. BURR:

Q. Do you know whether the U. G. I. under its arrangement with the City of Philadelphia supplies free of charge the public lamps there?

A. It does. It supplies a very large number, some twenty thousand lamps free of charge, and supplies the public buildings and the city free of charge. And, besides that, it pays the city ten cents on every thousand feet of gas it sells to the consumers.

By Mr. MATHEWSON:

Q. You know all this from the same source, I suppose?
A. Yes.

By Mr. BURR:

Q. I call your attention to a statement appearing upon page 29 of your affidavit and ask you to state what that is and upon what it is based?

A. The statement on page 29 is the tabulated computation of the actual price per one thousand cubic feet received by the United Gas Improvement Company furnishing gas to the city and citizens of Philadelphia, under a contract dated November 12, 1897, figures used to January 1, 1906, candle power of gas, 22.

2388 Q. From whom did you procure that statement?

A. This statement was computed by myself from the original documents furnished by the Director of Public Works of the City of Philadelphia.

Mr. BURR: I offer that in evidence.
Mr. MATHEWSON: Same objection.
The MASTER: It is already before me, as I say, under that rule.
Mr. BURR: All right, sir.

Q. What have you to say, Doctor, regarding the statement appearing in your affidavit as to the prices of mains and services? You said in your affidavit, page 49, "I have carefully recomputed the "cost of the mains owned by the Consolidated Gas Company "from the inventory given by him (Simpson) and I am of the "opinion that the cost of installation, $7,542,151.03, as given on the "books of the Company, is probably correct and moderate." Have you changed your opinon as the result of this hearing or the evidence produced here or any of the exhibits that have been offered, and if so, please state?

A. Referring to the computation merely on the basis given by Mr. Simpson I have no reason to change my opinion, but referring to subsequent development as to the actual location and as I have said before a duplication and triplication of mains in the streets it appears to me that an allowance should be made for excessive capital investment in mains.

Q. What have you to say, Doctor, if anything regarding the services of the Consolidated Gas Company?

A. I of course have had no opportunity to make a detailed examination of services and I don't know that I could do much better

if I had. It would appear however as though Mr. Simpson's
2389 statement with regard to the cost of putting in the services was correct and moderate.

Q. You are assuming that the figures given are correct?

A. Assuming Mr. Simpson to be as stated.

Q. That you don't know?

A. That I don't know. I have had no opportunity to examine or check them off.

Q. I will ask you a little more specifically regarding depreciation as it is applied under the English system. Is not depreciation covered in the English companies each year by specific entries upon the Company's books made before computing the year's profit?

A. That is the usual custom.

Q. Is there any allowance made for a depreciation in English companies by adding an estimated sum to the cash cost of making gas?

A. It has never appeared in any statement as to the cost of gas to which I have had access.

Q. Under that system is not the insurance fund made up from the clear profits after dividends have been paid and limited to 5 per cent. of the paid-up capital of the company, allowing only 1 per cent. of that to be set aside each year?

A. That is the usual custom.

By Mr. MATHEWSON:

Q. When you referred to the insurance fund I suppose you mean what we ordinarily call a reserve fund?

A. A contingent fund.

Q. A contingent or reserve fund, whichever you please.

A. A contingent fund, yes, sir.

By Mr. BURR:

Q. Do you know what the investment of the U. G. I. in Philadelphia is claimed to be per thousand cubic feet of gas sold?

A. At the time of my first affidavit it was claimed to be
2390 2.15 dollars per annual thousand cubic feet of gas sold, by presentation of bills to the city.

I would like to make a little correction in my testimony. I would like to say that on thinking the matter over that I recall that lately President Humphreys has agreed that the reserve fund should be terminated when 10 per cent. of the capital or investment was reached. But I also recall that he did not state this at first.

Q. Is there any other correction that you wish to make just now?

A. None other.

Mr. BURR: That is as far as I can proceed to-day.

At four o'clock p. m. adjourned to Wednesday, October 3rd, 1906, at eleven o'clock a. m.

Last Exhibits:

Complainant's 255.
State's W.
City's 51.

2391 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *October* 3, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Page, Mr. Kirby, Mr. Mathewson.

2392 WILLIAM D. MARKS resumed.

Direct examination by Mr. BURR (continued):

Q. Doctor, what did you find the approximate actual cost of the land on which the manufacturing plants of the Consolidated Gas Company are located—I mean land in use?

Mr. MATHEWSON: I object to that on the same grounds, that he is not an expert.

Mr. BURR: He is not testifying as an expert—what he found to be the cost.

The MASTER: Perhaps he means from the testimony.

Mr. BURR: Yes.

The MASTER: Objection overruled.

Exception.

A. As I stated yesterday, about $3,000,000.

Q. You have read the affidavit of Prof. Humphreys which was submitted in rebuttal in this case before Mr. Justice Lacombe?

A. I did.

Q. In that affidavit reference is made to a model gas bill of 1900. Will you explain what that model gas bill is to which he refers?

A. The model gas bill is a form suggested by the members of Parliament or by their advisers, under which companies desiring to obtain franchises for the manufacture and sale of gas are forced to apply, filling in spaces left for the amount of their capital and also for other details in which they may vary from the general run of gas works.

Q. And that is the bill to which you made reference yesterday?

A. That is the bill to which I made reference yesterday.

2393 Q. Now, referring to the English companies to which President Humphreys referred and of which you spoke yesterday, what did you find was the average profit or capital allowed by England on capital invested in gas companies?

Mr. MATHEWSON: I object to that question. It is well known that the basis of capital return abroad is substantially different, particularly in England, from this country. It seems to me it does not aid us any.

The MASTER: I will allow it.

Mr. MATHEWSON: Exception.

A. On page 54 of my first affidavit I tabulated the profit on capital employed by London Metropolitan Gas Companies in 1904 from Field's Analysis, the candle power of the gas being from 14 to 16 candles. The average profit on capital employed as stated from the résumé given in Field's Analysis is 8.24 per cent. This is rather more than would be claimed, because I have subtracted meter rentals, stove rentals and miscellaneous receipts from the net cost of coal and working expenses instead of adding them to the price of gas in order to obtain the profit on capital employed.

Mr. MATHEWSON: May I ask which Field's Analysis you refer to? For which year?

The WITNESS: 1904.

Q. Is the standard dividend allowed gas companies in England fixed by statute, by law?

A. It ranges all the way from 3 to 10 per cent. in some few cases, the majority of standard dividends being 7 per cent. or below.

Q. Is it stated in Field's Analysis, and, if so, will you please refer to it or state it in detail?

Mr. MATHEWSON: Give us the year, because there is one for each year.

2394 A. Referring to Field's Analysis of the principal gas undertakings in England, Scotland and Ireland for the year 1905 on folio 1, the Metropolitan Gas Companies, I find the standard rate of dividends to be as follows:

Gas Light Company—3½ to 5 per cent. There is no 10 per cent. dividend allowed.

The Commercial—3½ to 4 per cent.

Q. When you say Commercial, you are speaking of a company?

A. The Commercial Gas Light Company. I am using the exact abbreviated verbiage of Field's Analysis.

The South Metropolitan—4 per cent.

Of the suburban companies of London, the Brentford 10 per cent. standard dividend allowed on £380,000; 5 per cent. dividend allowed on £50,000; 7 per cent. dividend allowed on £576,920.

Bromley Company—No 10 per cent dividend allowed. 3½ per cent. dividend on £265,700, 5 per cent. on £100,000.

The Croydon Company—10 per cent. dividend on £76,600; 7 per cent. dividend on £100,000; 5 to 7 per cent. on £519,400.

South Suburban—No 10 per cent. dividend allowed; 5 per cent. on £685,767.

Hornsey—10 per cent. dividend allowed on £20,000; 7 per cent. allowed on £278,460.

Mr. MATHEWSON: When you say "allowed," do you mean paid according to that book?

A. Standard rate of dividend.
Q. What is your meaning of the word "allowed"?

Mr. BURR: Permitted.

A. Permitted.
Q. Does it say in that book it is permitted?

Mr. BURR: It says in the book standard rate.

2395 A. Standard rate, at the heading; you will see it there.
Q. Then what you mean is the standard rate when you say allowed, is that it?
A. That is it.
Leabridge—No 10 per cent. dividend; 5 per cent. on £271,737.
Mitchan—10 per cent. on £100,000; 7 per cent. on £80,000.
Richmond—No 10 per cent.; 5 per cent. on £218,425.
Tottenham—No 10 per cent; 3½ on £400,367; 5 per cent. on £120,000.
Wansworth—No 10 per cent.; 3½ per cent. on £550,905; 5 per cent. on £30,000.
West Ham—5 per cent. on £1,167,401.
West Kent—10 per cent. on £50,000; 7 per cent. on £100,000.
For suburban companies 10 per cent. standard rate of dividends on £626,600 and from 3½ to 7 per cent. on £5,514,882.

By Mr. BURR:

Q. The three Metropolitan Companies are the Gas Light, Commercial and South Metropolitan?
A. They are.
Q. And the suburban companies are Brentford, Bromley, Croydon, South Suburban, Hormsey, Leabridge, Mitchan, Richmond, Tottenham, Wansworth, West Ham and West Kent?
A. Yes. I would like to make a note with regard to the Metropolitan Companies, that in the case of the Metropolitan Companies, at the outset some of them were allowed 10 per cent. standard rate of dividend on a portion of their stock, but subsequently, by act of Parliament which specially provided that they should not increase the price or cost of works in case of sale, they were allowed to
2396 convert this 10 per cent. to 4½ and 5 per cent., enabling the same gross profit to be distributed.
Q. And as I understand it, the standard rates of dividend for the Metropolitan Companies is to the Gas Light 3½ to 5 per cent., the Commercial 3½ to 4 per cent. and the South Metropolitan 4 per cent.?
A. It is.
Q. When you refer to these various amounts with the different rates, what distribution is there to be drawn, if any? I notice the column is headed there Capital Authorized and Capital Raised.
A. In the case of the English companies a very complicated method of issuing capital stock and of loaned capital is frequently practiced. For instance, in the case of the Gas Light and Coke

Company, we find at the outset the stock divided as follows (on page 53 of my first affidavit):

(1) Ordinary Stock.
(2) Preference Convertible Stock, first issue.
(3) Preference Convertible Stock, second issue.
(4) Preference Convertible Stock, third issue.
(5) Preference Stock, fourth issue.
(6) Preference Stock, fifth issue.
(7) Stock.

And of loaned capital:

(8) Debentures.
(9) Debenture Stock.
(10) Bonds.

The object apparently being to obtain capital as it is needed in the increase of the demand for gas, and consequently for the capacity of the works.

Q. Do you know what the average price per thousand cubic feet is sold in the city of London?

Mr. MATHEWSON: Objected to as immaterial.

Objection overruled.

Exception.

2397 A. Referring to my first affidavit, page 54, the average price of all metropolitan gas companies of London is about 62 cents for gas ranging from 14 to 15 candle power.

Q. Referring to the English Acts regulating gas companies, what provision, if any, exists regulating the converted stocks in the event of the purchase of the company's undertaking?

A. I read Article 19 as follows:

"Whereas the conversion by this Act authorized may affect the market price of the company's stock, therefore be it enacted that in the event of any purchase of the company's undertaking by a public or a local authority the market price of the company's stock shall not be taken into consideration in determining the price paid for the said undertaking."

Q. Are not these converted stocks especially limited to a low rate of 4 per cent. or 5 per cent. dividend?

A. 3½ per cent. to 5 per cent., the highest.

Q. What do you find from all the data procurable by you is the probable cost of the 22 candle-power gas at the consumers' meters in Philadelphia?

Mr. MATHEWSON: I object to that as irrelevant, and the witness is incompetent to testify. How can we meet it?

The MASTER: I do not think it is of any value at all. I do not think you have to meet it. I will allow it.

Exception.

A. It is my opinion, based on the fact that the geographical locality of Philadelphia is very close to that of New York City, and from what figures I have been able to gather, that if Philadelphia is free of tax owing to its being a municipal gas works to the extent of 6½

cents, or thereabouts, that the probable cost will be in the
2398 neighborhood of 47 cents, with a possibility of being reduced somewhat below that—47 cents for sales, for gas sold.

Q. The price of gas you know in Philadelphia, do you not?

Mr. MATHEWSON: He testified on that, Mr. Burr, so far as he did know, or did not know, rather.

Mr. BURR: He said the net price was a certain amount yesterday. I want to know what the regular price is in Philadelphia for gas.

A. The price to consumers in Philadelphia is one dollar, of which the City Councils take ten cents for the use of the city.

Q. And besides which the company furnishes free the public lighting?

A. And furnishes free the lighting of public buildings and streets.

Q. And taking that into account, you estimate it sells gas there for 78.1 cents?

A. It has sold gas for the last eight years of 22 candle-power at an average of 78.1 cents per thousand cubic feet.

Q. In President Humphreys' affidavit he refers to the book which you have informed us you have written, and to the 15 per cent. usually allowed to cover profit and depreciation on investment. To what size of towns is this confined and limited?

A. May I ask what page?

Q. He refers to pages 213 and 217 of your book. He quotes from your affidavit, Doctor, the statement made there, to wit: "With a profit ranging "from 8 to 10 per cent. the present price of gas "should be fixed at not more than 75 cents per thousand cubic "feet to consumers in New York City," and then refers to what he claims are some contradictory statements in that regard, appearing in that book at pages 213 and 217. What have you to say in regard to that?

2399 A. Referring to page 213 of "The Finances of Gas and Electric Light and Power Enterprises," near the middle of the page I make the following statement:

"It should be remembered in a general way that one dollar in "the price of each long ton of gas coal means about ten cents per "one thousand in the cost of gas, and that one cent per gallon in "the price of oil used in carbureted water gas means about five cents "per one thousand feet in the cost of gas."

I wish to particularly emphasize the qualifying sentence which follows this:

"These latter three factors, then, should control any attempt to "go below the price of $1 per one thousand cubic feet for gas."

Referring to page 217, I would say that it is quoted from a report on new gas works for a small city.

Q. What is quoted, the statement?

A. The statement: "It is of interest to observe in the following "table that the profit on gas at $1.75 would be somewhat greater "than the 15 per cent. usually allowed to cover profit and depreciation on investment."

In addition to that, I wish to say that wherever I speak of cost of gas in my work on the Finances of Gas and Electric Light and

Power Enterprises I am talking about the actual cost of gas as deduced by an engineer from a thorough investigation of the books and not from accounts which may or may not be correct if written up by a mere accountant not familiar with the technical part of gas making.

Q. In your opinion, is there a difference where a company has newly started as distinguished from a company that has been long in existence?

A. The best example I can give of that is the English practice, where it will be observed that at the outset in many of the companies the stock was limited to a standard dividend of 10
2400 per cent. on the comparatively small sum required to start, and as the works expanded and the works became greater the result was that subsequent issues of stock came out at lower rates of standard dividends. Take, for instance, the case of the suburban companies referred to in Field's Analysis for 1905. I have not made the figures, but I think that the 10 per cent. stock standard rate dividend amounts to in the neighborhood of only one-tenth of the total issue of the stocks of the surburban companies, nine-tenths of the stock of the suburban companies, speaking in valuation, being limited to a dividend ranging all the way from three and one-half to seven per cent.

Q. Does that apply also to the metropolitan companies?

A. The metropolitan companies appear to have been set apart in many ways. In the early history of London, a period of great depression occurred in the prosperity of the various gas works. There were a large number of gas works, none of them making any dividends, or if they did make dividends they were making small ones, and many of them losing money. They were finally, I think, many of them consolidated in the Gas Light and Coke Company, and a great many investigations were made, and finally they were erected into one company, more particularly the Gas Light and Coke Company, with two other companies which followed. I don't know much about the history of the two subsequent companies. And they had a lot of 10 per cent. standard dividend stock at the outset granted to them, being because of the severe usage which apparently they had received at the outset, but even that has since been converted as related in what I have already stated.

By Mr. MATHEWSON:

Q. It has been about doubled, hasn't it?

2401 A. I looked up the figures once, but I have forgotten them. I could look it up—anybody could look it up.

By Mr. BURR:

Q. Now, in President Humphreys' affidavit he takes 62.56 cents as the cost of gas and uses your methods to produce the selling price. What would you use to produce the selling price of gas proper for New York City?

Mr. MATHEWSON: Dr. Humphryes takes the amount mentioned

by the Commission in their statement of cost as 62.56. He does not state that as his own estimate at all.

Mr. BURR: The language he uses is this. I will read it as long as Mr. Mathewson objects:

"If for the Consolidated Company we take the cost per thousand "as allowed by the Commission of Gas and Electricity, namely, "62.56 cents, and adds Mr. Marks' minimum profit of twenty-five "cents, we have a selling price of at least 87.56 cents. If we now "add for depreciation the difference between my 2.6 per cent. "(=6.87 cents per one thousand) and Mr. Marks' 5 per cent. "(=13.21 cents per one thousand), =6.34 cents per one thousand, "and then we have 93.90 cents as the selling price without any al- "lowance for reserve."

What have you to say about that statement which appears in his affidavit?

A. In that statement Doctor Humphreys has taken the price adopted by the Gas and Electricity Commission of 62.56, and he has then added a minimum profit of about 25 cents. Now, had that question been put to me by the Gas and Electricity Commission, I would have stated the actual cash cost of material and labor for gas to have been somewhere between 45 cents and 50 cents per
2402 thousand cubic feet sold. I would further have stated the actual structural investment to be somewhere in the neighborhood of or less than $2.00 per annual thousand cubic feet of sales. If I took 15 per cent. of two dollars I would have thirty cents to cover the depreciation and the profit, which depreciation was in a rough and ready way intended as a reserve or contingent fund, not using in this book the verbiage which has been so carefully worked out, and when I add this thirty cents first to forty-five cents actual cost of gas, I get as the proper price of gas in New York City seventy-five cents. If I add this thirty cents to fifty cents, which is a higher cash cost of gas, I would, of course, get eighty cents. I intended in this work and all through to write for the average gas manager, who would know these figures pretty closely, or who should know them.

Q. Which figures?

A. Figures of the actual cash cost of gas and paid out for materials and for labor and for current small repairs.

Q. Have you prepared a chart covering the Borough of The Bronx and the estimated increase in population and increase in the consumption of gas in that Borough for the year 1907?

A. I have.

Mr. MATHEWSON: What has the Borough of The Bronx to do with the Consolidated Gas Company?

Mr. BURR: It is in evidence here that the Consolidated Gas Company controls all the lighting companies in both Manhattan and The Bronx except the Bronx Gas and Electric Company.

Mr. MATHEWSON: Isn't that another proposition? We are not entitled to charge the consumers of the Northern Union or the Central Union any more than if we did not own that stock.

2403 Mr. BURR: We have shown the connection between the Northern Union and the Central Union and the Consolidated Gas Company, so we are taking the precaution to show you the estimated population of The Bronx and the estimated consumption of gas for the year 1907.

Mr. MATHEWSON: I object to it as immaterial and irrelevant and as uselessly cumbering the record.

The MASTER: I will take it.

Exception.

Q. What do you show by that chart?

A. This is a chart giving a graphic record of the sales of gas and the relation between the average price for the gas and the per capita consumption for the Borough of the Bronx for the years 1888 to 1906, including the sales of gas of the Central Union Gas Company, the Northern Union Gas Company, the Westchester Lighting Company, the Yonkers Gas Light Company, the Bronx Gas and Electric Company. It is prepared for the purpose of showing the relation, by means of a heavy line or curve drawn, which exists between the price of gas and the per capita sales of gas resulting from variations in the prices and variations in the population.

Mr. BURR: I offer it in evidence.

By Mr. MATHEWSON:

Q. From what source were these sales of gas for each of the companies obtained for each year?

A. Referring to the key in the right-hand upper corner, "T," testimony before Gas and Electric Commission, 1905-1906; "B. D.," Brown's Directory; "P. L.," estimated from public lamps; "I.," information obtained from President of Company; "E.," estimated.

2404 Q. Nothing before the Commission of Gas and Electricity in the shape of testimony as to output for these companies except for 1904 and a very short period theretofore, was there?

A. Each and every figure given for these companies has a key letter to it. For instance, the Central Union Company, 1904, "T" has a gas sales of 1,010,119,700; the Northern Union, marked "T" (testimony before the Gas Commission), has a total gas sales of 371,504,900. The Westchester Lighting Company, marked "E," has a total annual gas sales of 45,635,020.

Q. "E." means estimated, doesn't it?

A. "E." means estimated.

Q. Estimated by you?

A. Estimated by me.

Q. You had no information except your own conjecture on that?

A. Oh, not at all. Every possible means of figuring and information has been exhausted in this matter.

By Mr. BURR:

Q. What sort of information did you seek in making up this estimate that you speak of?

A. Always from the president of the companies, with the excep-

tion of the Northern Union and the Central Union Gas Companies, and being referred either myself, or by my assistants, to men qualified to give the figures, and in that case the men sometimes very frankly confessed—I refer to the officials of these companies—that they did not have correct figures, but that they could give us an estimate that would be near enough for all practical purposes, meaning by that it would be a very small percentage of error, namely, say, three per cent. either way, something of that sort. It was close enough to establish what I was in search of, corroborative evidence to the truth of the relations generally existing between the output per capita, sales per capita, and the price of gas.

2405 By Mr. MATHEWSON:

Q. Do you mean to say the officers of the Northern Union or the Central Union, any of them, told you they could not tell you the sales of that company for the year?

A. They were not consulted at all.

Q. And as to the other companies they could not tell you the exact sales?

A. In some cases they could not.

Q. *D. B.* means Brown's Directory again, doesn't it?

A. Yes, sir.

Q. What is Brown's Directory?

The MASTER: You asked him that the other day.

Mr. MATHEWSON: I object to this because I do not know whether it is correct or not, and in the second place it seems to me immaterial and irrelevant in any event. I do not think it has been proven sufficiently correct so it is worth anything for statistical purposes if the subject be relevant at all.

The MASTER: Even assuming that it may not have been technically proved, I think it is proper to allow it as it is undoubtedly the basis of some line of testimony that the Doctor is going to give here, and as a part of it I will allow it.

Mr. MATHEWSON: The difficulty is, Mr. Master, that the very purpose of using it as a basis, it not being shown to be reliable whatever, renders all the testimony on it unreliable.

The MASTER: Mr. Burr has to take that risk. You have saved your rights by objections and have called attention to what you regard as the defects in the proof, and if he chooses to rest
2406 his case on some theories that are based on figures that are only estimates instead of as you claim accurate figures, that is his lookout. I do not see that you are hurt. I will overrule the objection and take it.

Mr. MATHEWSON: Exception.

Paper received and marked City's Exhibit 52.

By the MASTER:

Q. As I understand it, this diagram is a continuation of the similar diagram which you introduced the other day, is it not?

A. It is.

Q. Only that it continues that line of work into The Bronx instead of confining it to Manhattan, is that it?

A. By request of the Corporation Counsel.

By Mr. BURR:

Q. This is as far as possible making it for the Borough of The Bronx similar to what you made it for Manhattan?

A. It is.

Mr. BURR: Before I forget it, I want to offer extracts from the English law regulating accounts, 34 and 35 Victoria Chapter 41, as taken from Reeson's Complete Gas and Water Acts, 1817 to 1902.

Paper received and marked City's Exhibit 53.

Q. What do these four columns headed approximate refer to, Doctor?

A. The four columns headed approximate are the results of the additions and other mathematical operations upon the four columns headed C. U. Company, N. U. Company, W. L. Company and B. G. Company. And they give first, the sales per capita in cubic
2407 feet; second, the total sales in cubic feet; third, the sales per capita in dollars and cents; and fourth, the total sales in dollars and cents.

Q. And what is given in the four columns to the right?

Mr. MATHEWSON: Don't you think it should appear that the last two columns *mean dollars and cents?* There is nothing to indicate it.

The WITNESS: At the bottom you will find the dollar sign shown. It should have been put at the top.

Q. And the four columns to the right, what do they contain?

A. The four columns to the right take up the individual companies and the data derived from the individual companies.

Q. What kind of data is it, what does it purport to be?

A. Beginning at the top on the right hand side, C. U., or Central Union Company, the total annual sales in cubic feet is given. Under the head of N. U. Company, the total annual sales is given; under the head of W. L. Company the total annual sales is given, and under the head of the B. G. Company the total annual sales in cubic feet is given. These four are added together and carried out to the left hand side under the second column headed "Approximate."

Q. What is the meaning of the irregular line running through the center of the chart?

A. The irregular line is drawn in order to show the variations occurring in the output per capita as variations are made in the price of gas per thousand cubic feet.

Q. Where are the dates fixed?

A. The dates are placed on horizontal lines, for instance, estimated population 257,405 in 1904 has in the same horizontal line with it all of the figures.

Q. In the approximate column?

A. In the approximate column and also in the individual
2408 company's columns.

Q. And that applies all down that line, does it?

A. All through.

Q. And that applies to the chart for the Borough of Manhattan?

A. Also to the Borough of Manhattan. That is the horizontal line—all figures for any given year are always on one horizontal line.

Q. From what source have you taken your statements as to population?

A. The State census for the year 1905 and the United States census for the years 1900 and 1890. In between, the population has been estimated and is so marked, but in many cases in a rude way only from such figures as I could get from the Board of Health and from some election statements as to population.

Mr. MATHEWSON: I do not see the year 1906 there. Is it in there?

The WITNESS: The year 1906 is not in. It has not yet passed.

Mr. MATHEWSON: Then the heading should be changed to 1905?

A. It is to 1906 which is not included.

Q. I assumed this was a chart showing all you have stated from 1888 to and including 1906.

A. No, it is to 1906.

Q. It is to and including 1905?

A. To and including 1905.

The MASTER: But it includes 1888.

The WITNESS: It includes 1888.

Q. This is a statement from you, not an estimate as to the future. You have confined yourself to the year 1905?

A. Yes. This is a statement in the case of The Bronx more particularly for the purpose of confirming the work done in the case of the Borough of Manhattan. 2409

Q. And do you find that there was an increase in the consumption of gas as there was a decrease in the price of it in The Bronx?

A. In every case on the average in a general way.

By Mr. MATHEWSON:

Q. But you have the Westchester Lighting Company and the Yonkers Gas Company in here. Are not part of their sales and operations outside of The Bronx?

A. I can give you all the figures on that if you——

Q. Well, I merely asked a question——

A. They have some. You will notice that Yonkers Company previous to 1900, under the head of W. L., that is, under the head of Westchester Lighting Company, you will observe.

Q. Yes, but my inquiry is as to whether the Westchester Lighting Company does not operate and whether part of its sales are not made outside of The Bronx?

A. Well, there was a great deal of difficulty about that and finally from the president, or rather from the employees of that company, to whom we were referred by the president, the figures were obtained and confined within the Borough of The Bronx. All that is in the form of a memorandum which I can give.

By Mr. BURR:

Q. What do you find to be the increase in the consumption per capita in the Borough of The Bronx between 1888 and 1905?

A. The consumption per capita for the year 1905 was 5,636 cubic feet and the price was $1.01 on an average. In 1888 the consumption per capita was 1,165, and the price of gas was $1.59.

2410 Q. What do you find the variations of price to be if any between those years?

A. At each reduction of price there appears, perhaps not immediately but ultimately, an increase in the consumption per capita, which can be followed along the line; this line is traced for that purpose, so it can be regularly followed from end to end.

Q. Now, Doctor, we will take up the subject of pressure if you please. You are familiar with the statute in the respect that it fixes the minimum and maximum amount of pressure in the city of New York, are you not?

A. I have familiarized myself with it.

Q. What is the object of regulating the pressure of gas, or what good purpose is served by it?

A. For the purpose of consuming gas we have various forms of burners, of mantle lamps, of gas stoves and of heaters, and these require certain pressures in order to operate uniformly and safely. With this object in view it has been found necessary to establish the average pressure or the fixed pressure or a minimum pressure, and of late in this case, a maximum pressure of gas which shall be held in mains and in the service pipes of any gas company furnishing gas to the public.

Q. How is the pressure ascertained, the amount of pressure?

A. The pressure is ascertained in terms of a column of water. There is a glass tube used for this purpose which is bent in the form of a U., and being half-filled with water, one side is put into communication with the gas main and the other left open to the atmosphere; the gas main, having a slightly higher pressure, drives down the water on its side of the U tube and consequently the water rises on the atmospheric side of the U tube as the tube is open to the atmosphere. It is usual to state pressure in inches or in tenths of inches, measured between the two surfaces of water in the U tube.

2411 Q. Won't you demonstrate that for the Master?

A. Unfortunately I forgot that U tube at the last moment, but I will send the boy for it.

Mr. BURR: I thought you might want to see it demonstrated.

Q. What is the English rule with regard to pressure that prevails in London, if you know?

A. As prevailing in London, it is required that the pressure shall not fall below .6 of an inch at any period during the day, and during the hours when lighting is on fall below .10 or ten-tenths, or one inch.

Q. Based upon this column of water which you have described?

A. Based on this column of water that I have described.

Q. Now you have heard the testimony of the witnesses called by the complainant, Mr. Bradley and Mr. Addicks and Prof. Humphreys, I think, was also asked about the pressure, that it was a physical impossibility to comply with the terms of this statute fixing the pressure between one inch and two and one-half inches maximum. Do you agree with that opinion?

A. I do not agree as to the physical impossibility of furnishing gas at all parts of New York at a pressure ranging from a one-inch minimum to a two and one-half inch maximum.

Q. The geographical configuration of New York shows that there is an elevation at certain points of upwards of 250 feet; is not that the fact?

A. That is the fact.

Q. If the Consolidated Gas Company should ask you to do what was necessary to comply with this law, could you do that?

A. I could if I were allowed to expend whatever sum I deemed necessary for the purpose.

Q. What would be necessary to commence with?

2412 A. First of all, the complete survey of the City of New York, giving its topography and differences of level. In turn, then the pressures would have to be established according to these levels and the mains isolated or segregated according to levels throughout New York. It would then be necessary to see that in some method the pressure which comes from the holder usually should be so regulated or modified for each level that it would never go above two and one-half inches or below one inch, and this is physically possible.

Q. During all the years you have testified you have been engaged as a gas engineer and in gas works and electric works, have you familiarized yourself with pressures and the laws regulating pressures, and the operation of pressure as applied to gas?

A. I have.

Q. If you were called upon to interpret this law as a gas engineer and from a scientific standpoint in what way would you construe this law to be operated?

Mr. MATHEWSON: Fortunately, the witness, perhaps, is not called upon, as I understand it, to interpret this law. That is for the Court.

Mr. BURR: As I understand it, the Court may call in those who are familiar with technical conditions and this is a highly technical situation, and get from them their views as to whether this law could be given a reasonable interpretation. Is not that so?

The MASTER: Did not some of Mr. Mathewson's witnesses undertake to put an interpretation on the law and did not you gentlemen object to it? How was that?

Mr. KIRBY: They were permitted to do so, however.

Mr. MATHEWSON: No, they were not.

The MASTER: I think they were.

2413 Mr. MATHEWSON: We were not permitted to put an interpretation on it at all. It was excluded.

The MASTER: I do not see how it is competent for a witness to

construe the law. I did not see when the question was raised before, nor do I see now. If there are any expressions in it, technical expressions or phrases as to which you think it is proper to ask his expert opinion, I think that you should be allowed to do so.

Mr. BURR: I will ask this question.

Q. If the object of a law was to preserve a uniform variation in pressure and assuming the conditions which exist in the City of New York and in the Borough of Manhattan, having the elevation at points that you speak of of 250 feet and taking the pressure at sea level, what way would that uniformity be preserved?

Mr. MATHEWSON: I object to that, Mr. Master, as attempting to get the same point in in a different way. If there is any word in the Act that is technical, perhaps the witness might testify as to what it meant in the art, but I do not think——

Mr. BURR: I think the Court is entitled to get all the information he can on this subject. I ask, assuming certain conditions were existing and it was necessary or desirable to have and keep a uniform variation in the pressure, and assuming that there are variations in the levitation of the Borough of Manhattan, how could that uniformity of pressure be preserved with that varying levitation?

The MASTER: He can answer that. I will give you an exception.

Mr. MATHEWSON: Exception.

2414 A. It would be necessary to assume the maximum pressure at sea level at 2½ inches and the minimum pressure at 1 inch. At any point above the sea level the maximum and minimum pressures would rise. At a point 100 feet above the sea level, from the experiments of Doctor Love, I would say that the maximum pressure should be 3 inches and the minimum pressure 1½ inches, as observed with the open U tube. At a point 200 feet above the sea level I should say the maximum pressure should be 3½ inches and the minimum pressure 2 inches at a point 250 feet above the sea level, which is said to be the highest point of Manhattan Island I should say that the maximum pressure would be 3¾ inches and the minimum pressure 2¼ inches; and this would be in an ordinary technical and scientific way a proper construction from an engineer's and gas man's point of view of the law——

Mr. MATHEWSON: Now wait a moment. Is that quite fair for the witness after having heard the ruling of the Court to say what the proper construction is? I move to strike it out.

The MASTER: No, I think you can omit that, Doctor.

Motion granted.

Q. Would this necessitate any change in mains in the City of New York?

A. If the mains of the City of New York as presently existing are adequate in a good and sufficient engineering way to the supply of gas, there is little probability that any change would be required. If, however, it should prove, as it probably has proved, that the sales of gas have so enormously outstripped the anticipation of even those best qualified to judge, it is probable that in some cases they

would have to put in larger mains than they have, but that
2415 would be equally true if all their mains happened to be on a dead level.

Q. When pressure is spoken of by gas engineers where is it taken from, is it taken from sea level?

A. If the level is not mentioned.

Q. If the level is not mentioned, is it assumed to be sea level?

A. It is assumed to be at sea level and ordinary atmospheric pressure.

Q. And do you know of any instance in your investigation in the gas business of the City of New York where that assumption is demonstrated by a table or statement by the officials?

A. I do.

Q. Will you point it out, please?

A. In the year 1881 a report of the bureau of Lamps and Gas, January 17, was made marked Exhibit F. in my first affidavit. The pressure of public lamps of the several gas companies——

Mr. BURR: I offer it in evidence.

Mr. MATHEWSON: Is it of any value?

Mr. BURR: Except to corroborate the statement he has made, that in figuring out pressure the pressure has been taken by the officials and is taken and gas engineers take it when not otherwise specified as being at sea level and there is the statement taken at the various elevations in the City of New York commencing at sea level.

Mr. MATHEWSON: I do not think the table shows it, and if in the next place, the companies for their own purposes took the pressure and reduced it to sea level, that would not at all affect the statute passed by the Legislature, and which this tribunal cannot amend, I assume.

Mr. BURR: It helps to show the usual and customary way of figuring out pressure.

Mr. MATHEWSON: No, it does not show anything of the
2416 sort. If it did, it would not be of the slightest importance in my judgment.

The MASTER: I will take it.

Mr. MATHEWSON: Exception.

Paper received and marked City's Exhibit 54.

The WITNESS: May I explain it?

Q. Yes.

A. In this table not only the distance in miles from the stations is given but also the elevation above mean high water as established in New York Harbor. In the case of the New York Gas Company, corner of Grand and Gouverneur street, the station is 1.8 miles away from the point of observation, and the point of observation is 34 feet above the level of mean high water. It is very easy to see at once that this was intended for no other purpose than the correction of the observed pressure, the observed pressure below, say——

Mr. MATHEWSON: I move to strike that out. If it is very easy to see, why does the witness have to testify to it? We can make our own deductions from the tables.

The MASTER: Strike it out. It is a matter of argument.

Q. What does that chart show from your experience and in your opinion?

Mr. MATHEWSON: Does it not show what it shows, Mr. Burr? He may say it shows something that we do not think it does show, and will have to put on a witness to say that it shows something else?

Q. This shows the distance in miles from the various stations named in this chart?

A. It does.

2417 Q. And it also shows the elevation above mean high water of each station?

A. It does.

Q. And it shows the hours at which the pressure was taken?

A. It does.

Mr. MATHEWSON: I assume it shows the pressure in tenths, doesn't it?

Q. In your opinion as an expert and gas engineer, what is the meaning of this column, elevation above mean high water?

Mr. MATHEWSON: Objected to as perfectly clear.

The MASTER: It does not require any explanation. As ignorant as I am, I know what that means.

Mr. BURR: I mean, if he knows whether it was taken for any special purpose.

Q. What is the meaning——

A. It was taken for the purpose of correcting the observed pressure.

Q. What, if any, need exists for the use of that column?

Mr. MATHEWSON: I object to that as another conclusion which is called for.

Q. Well, in your opinion that was for the purpose of comparing the pressures at these different stations above the level of the sea?

Objected to.

The MASTER: I will allow it.

Mr. MATHEWSON: Exception.

A. It certainly was.

The MASTER: As I understand it, it corroborates his previous testimony.

Mr. BURR: Yes.

2418 Mr. MATHEWSON: We do not think it does, at all.

The MASTER: Well, that is your view of it.

Mr. BURR: Yes. That is all.

The MASTER: Now Mr. Mathewson.

Mr. MATHEWSON: I considered the subject, Mr. Master, and I do not see how I can properly cross-examine the witness until he has completed his testimony. The counsel on the other side declined absolutely to proceed with Mr. Carter and finish any lines before he had finished, and I find that all these matters are so co-related that

it is simply chopping off a little here and there and then stopping before I am through, and I do not think it will hasten it at all if I started. I will say this, that I think the defendants should put the witnesses on as suggested, the real estate witnesses and others, and if it comes to a stop and I can then take up some of these matters and touch on them and save a little time, reserving the balance of my cross-examination, I will try to do so. But I am not prepared now to do so.

Mr. BURR: Do I understand the counsel for the complainant refuses to proceed with the cross-examination of this witness whose testimony on the direct has just been concluded?

Mr. MATHEWSON: I do not understand the testimony has been concluded. I understand you intend to ask this witness further questions hereafter.

Mr. BURR: I have finished with him.

Mr. MATHEWSON: Finished completely with him?

Mr. BURR: Except if I need to call him again for any other purpose.

Mr. MATHEWSON: I would like to know when he proposes to recall him.

2419 Mr. BURR: I notified Mr. Mathewson many times that we wanted an inspection of the books and of the plants, and at the last session prior to the adjournment he definitely understood both at an informal meeting before the Master and with counsel for the defendants that we proposed making an application to the court for an inspection of the plants and for an examination of the books, because both those had been refused by counsel for the complainants. Such motions have been made during the recess between the session of September 14 and the first day of October, and they are now returnable before Mr. Justice Lacombe on Friday next. When we reassembled on last Monday, counsel for the defendants presented the situation to the Master and begged leave to have an adjournment until after the application pending before Justice Lacombe had been disposed of, counsel for the complainant protested against any further adjournment and insisted that we proceed, and under the ruling of the Master, we proceeded. Subsequently, Mr. Mathewson, counsel for the complainant, stated that he at last would concede that we had a right to the inspection of the plants——

Mr. MATHEWSON: No, I never conceded it.

Mr. BURR: Now, having gone on with Dr. Marks, who is our chief expert for the City of New York and finished with him on the direct, and in view of the fact that they now allow us to inspect the plant, which inspection will take undoubtedly about 30 days, they refuse at this time to go on with the cross-examination of Doctor Marks upon the testimony he has given, based upon all the testimony they have given up to the present time, and I think it is a very unfair position to take, and I think it will be doing an injustice to

2420 the City, and I therefore protest against it.

Mr. MATHEWSON: I have not conceded that you were entitled to the inspection of the plant, and never have and do not now concede it. It is a matter of courtesy. Secondly, Mr. Kirby stated

to me yesterday that Dr. Marks was to be called on the valuation of the plants and was to go over them. I understand that is not disputed and I do not propose to be thrown off by any subterfuge that he may be recalled for any other purpose.

Mr. BURR: If there has been any subterfuge, it has been on your side.

Mr. MATHEWSON: When we had Mr. Carter on, it was said that a motion would be made to strike out his testimony if he was not presented for cross-examination.

Mr. BURR: That was because of the tabloid form in which you presented his evidence.

Mr. MATHEWSON: Now, if you have other witnesses to put on, whom you do not intend to continue the examination of later on, I will endeavor to cross-examine them as they conclude their testimony.

Mr. BURR: I hardly think that is fair. We were forced to go into the cross-examination of all their witnesses. As far as we could get the information we demanded. Now they have got the information of our witness, and they want 30 days to prepare to cross-examine.

The MASTER: It seems to me that we will have to pursue a middle course in this to be fair. I do not think Mr. Mathewson ought to be compelled to go on and cross-examine Doctor Marks on any matter that is at all concerned with this inspection of the plants. On the other hand, I think he ought to go on and cross-examine him
2421 as to matters which are fairly and entirely disconnected from the inspection of the plants; as, for example, this last subject you have had this morning, the question of pressure. I presume he will want to cross-examine on that and I see no earthly reason why he could not proceed to cross-examine on that and several other branches of his testimony.

I have no doubt perhaps it would be more convenient to have the cross-examination all at once, but still all these matters are more or less matters of discretion, and it seems to me the fair thing under the circumstances would be to have the cross-examination proceed now so far as it can on matters which are not involved in the inspection.

Mr. MATHEWSON: The matter of pressure would be involved in the inspection. They would probably inspect our pressure appliances and so forth and will probably testify as to their adequacy.

The MASTER: You can cross-examine him on that further testimony again, but I think there has been enough here this morning for you to cross-examine him on. That is my view of it.

Mr. MATHEWSON: Of course, if the Master insists I shall have to do it, but it does not seem to me that I ought to have to do it.

Mr. BURR: We would be ready with Doctor Marks and the expert retained by the State, commencing on Monday——

Mr. KIRBY: If I may suggest, on each day of this hearing during this week it has been stated that if the matter is adjourned over until Monday we will be in a position to go on with some real estate experts and witnesses who have not anything to do with the in-
2422 spection of the plants, but we have made no preparations for any such testimony during this week for the reason that we

understood the examination of Doctor Marks would be lengthy, as it undoubtedly will be, and we cannot go on until we are prepared.

Mr. BURR: It disarranges all my plans, because I had no reason to anticipate that we would not proceed at once to cross-examine Dr. Marks, and I had made my arrangements to present my evidence in an orderly way, calling one witness after another, and it seriously interferes with that arrangement.

The MASTER: Those considerations do not appeal to me very strongly. You have had plenty of time to arrange for your real estate experts and you have had all summer and all this recess, and counsel in presenting the case have got to take the ordinary risks of the progress of litigation. I did not perceive that the other side had a great deal of consideration. I made them go on from day to day and stump along the best they could and without much assistance from you, as you delayed them to some extent by asking for statements, and they had to go on. I cannot apply any easier rules to you than I did to them. All requests for delay and every indulgence it seems to me comes from the defendants in this matter, and I do not see any reason why I should grant it.

Mr. BURR: I cannot see where we have been indulged.

The MASTER: And any time there has been any suggestion of an early adjournment of the session or a postponement of any kind, they have all come from the defendants with one or two trifling exceptions. And as I say, I made the other people go on, and I
2423 do not see why you defendants, with all your talent and associate counsel and all that cannot go on as well as the other side.

Mr. BURR: I have no associate counsel.

The MASTER: Well, I mean that there are two or three of you and that it makes it easier for you to go on.

Mr. BURR: I represent the City of New York.

The MASTER: And I think, Mr. Mathewson, you had better proceed as far as you can. Of course, I will not make you go on as to any matter connected with this inspection, and it is going to be difficult for me to say how long you should go on, because these matters are dove-tailed to some extent; but there are certain matters you can go on with. But at the same time, that must not relieve the other side from going on with another witness when the cross-examination is suspended.

Mr. BURR: Upon that subject, we telephoned to Mr. Mathewson's office last evening, and he was not there and so we communicated with Messrs. Shearman & Sterling, and Mr. Garver said it would not be necessary to have Mr. Gawtrey here because we have the records of the petitions presented by the Consolidated Gas Company for a reduction in the taxes upon various parcels of property, so we could use time in getting those on the record without Mr. Gawtrey, if that is agreeable.

Mr. MATHEWSON: No doubt, if you will present the petitions he signed or any affidavits he made or anything of that sort, I shall not ask you to have him identify them. There will be no doubt about that. I do not think it will be necesary to have him.

Mr. BURR: If you will go on as far as you can with the
2424 cross-examination of Doctor Marks——

Mr. MATHEWSON: You know his testimony was only delivered a few moments before the session this morning and I have not had time to look at it.

The MASTER: The other side had similar disadvantages while you were going on.

Mr. MATHEWSON: No, but they got adjournments so they could examine these statements.

The MASTER: No, but they had to work some nights, and I think you will have to, too.

Mr. MATHEWSON: Is it the instruction of the Master that I shall proceed?

The MASTER: I think so. I do not think any other way would be fair. I do not see any reason why the whole cross-examination should be held up.

Recess until 2 o'clock.

After Recess.

WILLIAM D. MARKS resumes the stand.

Cross-examination by Mr. MATHEWSON:

Q. What was the date of the construction of the Laclede Gas Works at St. Louis?

A. During the years 1872 and 1873.

Q. Were you employed by the company or by the contractor constructing the works?

A. I was employed by the contractors, four gentlemen associated for that purpose.

Q. What were your duties?

A. I was primarily constructing and resident engineer for
2425 William Farmer, and confidential accountant, secondarily, for all of the contractors.

Q. Was the contractors' employment merely to construct the plant?

A. It was merely to construct the plant.

Q. The contractors never operated the plant, did they?

A. The contractors did operate the plant?

Q. For how long did they operate it?

A. So far as I was there, for some three or four months.

Q. As a test?

A. No. It was one of those arrangements by which the contractors took pay in stock and bonds for the work and appeared at the inauguration as stockholders and bondholders of the company and became the Board of Directors themselves; in part, at least.

Q. But did the contractors as such operate the works, or did the company operate the works after they were completed?

A. The company operated the works.

Q. Were you the executive officer of the company in charge of the operation of the works?

A. During the time of the contractors' construction I was not. At the time the works were started in, the gentlemen turned the whole matter over to me up to the point where, a large consumption coming on, it was necessary to enlarge their staff, which they did, by the addition of a great number of men, and I left to take work in other engineering matters.

Q. That was three or four months?

A. I should say that. It is a long way back; as near as I can recall it.

Q. What was your position during the operation of the works for the three or four months?

A. I held no official position by name. Mr. S. L. Husted, who was the largest owner and a promoter, as well as one of the contractors for the works, deputed me to act in his stead when he
2426 or Mr. Frederick Cromwell were absent; and they were absent a good deal of the time.

Q. Did you purchase the material during that three or four months for the manufacture of gas, personally?

A. The company made a contract for Youghi-eny coal which was signed by some of the officials there, the terms being arranged by William Farmer, then the engineer in chief.

Q. My question was whether you had charge of the purchase of material?

A. I did not.

Q. Have you ever constructed a gas plant?

A. Yes.

Q. The contract running to you for the construction?

A. Do you mean did I ever take a contract to construct works?

Q. Yes.

A. I never acted as a contractor in the construction of gas works.

Q. Were you ever engaged with any other company than the Laclede Gas Company, except with the Durham, North Carolina, Company—and what was the other you mentioned?

A. The Fostoria Company.

Q. The Fostoria Company?

A. For quite a while I was placed by the president of the Brooklyn Gas Light Company in the position of a factotum to, as he phrased it, "learn the business," anterior to going to the Laclede, in St. Louis.

Q. Previous to that?

A. Previous to that.

Q. Well, subsequent to that had you been connected or had you had charge of the operation of any companies except the Durham Company and the Fostoria Company?

A. I don't recall any now. I may have had.

Q. With the Durham Company, what was your position?

A. First of all, I was employed as engineer, to plan the works, and if I remember rightly—I am not clear on that point—I was made president of it at the time we started in and after some
2427 little time was engaged in getting up the account books in proper shape and operating the works.

Q. Did you have charge of the operation of the works in the purchase of material and supplies and work of that character?

A. At Durham, do you means?

Q. Yes.

A. At the outset I think everything was entrusted to me. There were gentlemen interested in it who may have acted personally in the matter, but if they did so it was simply to assist me as I was busy with a good many other engineering projects at the time.

Q. Had you any superintendent at Durham who had direct charge of the operations?

A. There was a man there whose name I have forgotten who did a lot of laying of pipes and attended to the brick work and that sort of thing. He was a relic of the previous arrangement of parties who had failed.

Q. Well, I don't care about the details. I am merely asking you direct and rather brief questions.

A. He was utilized as the foreman on the ditch. I don't know that he had the position of superintendent.

Q. How large a plant was Durham, as to sales?

(Witness proceeds to get a book.)

Q. Oh, somewhere near it; I do not care to have it to a thousand feet.

A. The annual sales of gas for the year were estimated at from 16,000,000 to 20,000,000 cubic feet.

Q. What was the output of the Fostoria plant?

A. I am not entirely clear on that, it is too far back, but it was somewhere between 16,000,000 and 24,000,000 cubic feet. I cannot recall.

Q. How far back?

A. Was that?

Q. Yes.

A. Four or five years, I think.

Q. Four or five years ago?

A. Yes.

2428 Q. What was your position there, at Fostoria?

A. I was, I think, made president of the company at the time that I arrived for the purpose of putting in operation, more particularly, a water gas plant which was there, and attended to getting the accounts in proper shape.

Q. Wasn't your connection with the company more in connection with the accounts than it was with the actual operation of the plant?

A. No. They could not get the plant going.

Q. You mean the wheels would not go around?

A. They didn't know apparently how to run a water gas plant, the people out there, and they were operating a little coal gas plant and incidentally I discovered that the accounts were in very bad shape and on saying so I was instructed to get them into proper working shape.

Q. Did you have charge of the purchase of material there, or was that in charge of some one else, the superintendent or purchasing agent?

A. I had charge of the purchase of material there.

Q. Did you personally make it?

A. Yes. I remember now half a dozen different instances in which I purchased material for the company, although I should much prefer that the people who owned the company should have done so.

Q. Have you within the last thirty years operated or had charge of the operation of any gas plants under metropolitan conditions such as prevail in New York City or other large cities in the East?

A. No, I have not.

Q. You have never constructed a plant in any of the New England or Middle Atlantic States, have you?

A. No, I have not. I beg your pardon, if you will allow me to correct that. At the time that Professor Low was engaged in his experimental work on the water gas plant I was deputed by the people of the Brooklyn Gas Light Company to stay with him
2429 and work with him and I remember at that time something was done, but that was away back in the '70's and was nothing more than a trivial matter, comparatively speaking.

Q. Referring to the pressure, you spoke of a minimum requirement in London of one inch in busy hours and .6 at other hours. Is there any maximum requirement as to pressure in London?

A. There is none that I know of.

Q. In your affidavit in this case did you swear that "at a height of 100 feet above the sea or works level, it will be necessary to accept a minimum pressure of 1½ inches and a maximum pressure of 3 inches?"

Mr. BURR: What page?

Mr. MATHEWSON: Page 46.

A. I did.

Q. And also that "at a height of 200 feet above the sea it will be necessary to accept a minimum pressure of 2 inches and a maximum pressure of 3½ inches water column?"

A. I did. The assumption being——

Q. Do not give the assumption. I merely asked whether you so swore. I ask you whether you also swore that "at a height of three hundred feet above the works or sea, it will be necessary to accept a minimum pressure of 2½ inches and a maximum pressure of 4 inches water column."

A. Under the existing conditions and connections of the mains of the Consolidated Gas Company, I did so.

Q. And you believe that to be true?

A. It is a law of nature.

Q. Now, did you also say that it is to the interest of gas companies to keep their pressures in their mains just as low as possible in order to avoid a great loss by breakage and excessive use of gas in street lighting?

A. I did.

2430 Q. That is true, isn't it, too?

A. It is true.

Q. Did you also say, that with the great increase of incandescent lighting by means of Welsbach mantles, and of cooking by means of gas stoves, it has been found necessary of late years to increase the gas pressure to about two and one-half inches which pressure is required for the best operation of both incandescent mantle lights and gas stoves?

A. I did.

Q. Did you also say that within reasonable limits, or say not exceeding four inches, the modern high pressures of gas distribution are not in deponent's opinion productive of excessive use of gas, because it is within the power of every user, by means of a stop-cock, to adjust the flame and the flow of gas according to its needs?

A. I did.

Q. And you still believe that to be the fact, do you?

A. Yes, sir, I do.

Q. And in taking record of pressure at any point, is it not the object to show whether the pressures at the particular point of observation are suitable ones for the consumers?

A. It is.

Q. If the pressure to a consumer at any altitude is four inches registered upon a gauge there, it is of no importance, is it, to the consumer what that pressure would be if reduced by formula to sea level so far as it affects him?

A. No, it is of no importance to him.

Q. Referring to the table which you put in, do you know of your own personal knowledge that the pressures which are registered in that table were ever in fact reduced to a sea level uniformity?

A. I certainly have not seen anything more than what is printed there.

Q. In the table?

A. In the table.

Q. Did you take record of pressures in the Durham and Fostoria Companies?

A. It was not necessary.

2431 Q. Well, did you take any?

A. Very careful records in both cases at the station and also at the office, keeping an automatic record on a float gauge of the pressures.

Q. Upon taking those pressures did you reduce those to sea level and have you such a record?

A. I did not.

Q. Do you know of any gas company which in practice does customarily reduce the pressure shown at various points to sea level?

A. The London gas companies prescribe a difference of one-tenth of an inch for the height of a lamp-post above the main which it is served from, the burner of a lamp-post.

Q. But do you know of any company which in fact, reduces upon its records the pressure which is taken at any particular point to sea level, customarily?

A. I do not.

Q. Do gas engineers generally guide themselves as to practical

results at any point or points as to the use of appliances by pressures reduced to sea level or to pressures which appear at those points?

A. They guide themselves by the pressures which appear at those points.

Q. Now in reference to the mains of the Consolidated Gas Company you stated that pressure could be equalized and brought as a matter of possibility within the limits of the present law at some future time by installing new lines of mains or by setting off the various districts. How many districts would be required in New York City for that purpose?

A. I stated that the first necessary move would be a careful topographical survey of the whole field served by gas and then on the determination of the various tracts having various levels.

Q. You have not made such a survey?

A. I have not, but I have listened to what Dr. Humphreys had to say in regard to the matter and studied the Geological Survey's charts.

2432 Q. Is it not true that smaller pressure was required twenty years ago than is now required by reason of the fact that flat-flame burners were then more generally used and Welsbach burners and gas stoves were not generally in use?

A. That is true.

Q. Is it not also true that larger mains are now required in order to give a larger pressure than was required when a less pressure was needed for operation of appliances?

A. Exactly the reverse is true.

Q. Will you explain why?

A. Because, in order to get a large quantity of gas through a small main it is necessary to increase the pressure.

Q. Then larger mains are required now, you think, that was my question?

A. I beg pardon, the first question was what, that you asked me?

Q. Whether larger mains were not now required than were required when it was necessary to deliver gas to the flat flame burners?

A. May I ask for the question to which I gave the answer first?

Question read by Stenographer as follows:

"Q. Is it not also true that larger mains are now required in order to give a larger pressure than was required when a less pressure was needed for operation of appliances?"

A. My answer was, exactly the reverse is true.

Q. Is it not true that the London companies in using their one-tenth inch reduction to which you have referred, do this simply to enable them to state with greater accuracy what would be the pressure in the mains below?

A. It is.

Q. The observed pressure, of course, I refer to.

A. Yes.

Q. Did you hear the testimony of Mr. Bradley and Mr. Simpson as to the condition of many of the streets of the City of New York regarding sub-surface structures and that it was impossible

2433 in some of them to put in more mains, to say nothing of larger mains?

A. I did.

Q. How does that affect the possibility of laying out a system of mains towards this pressure regulation?

A. I have had a great deal of experience in putting down electrical conductors and large bodies in the last fifteen or twenty years, and wherever the streets were, I never found any difficulty, if I had to get there, that was insuperable. It was a question of depth and of cost generally.

Q. And any cost of laying a system of mains would naturally add to the capitalization of a company, would it not?

A. It would, yes.

Q. And would require a larger allowance more or less of profit to pay a return on it?

A. Of course.

Q. Did you conclude how many different lines of mains you would have to lay out in the City of New York in order to establish this uniformity of pressure in the future?

A. It will be impossible for anybody to do so until they are furnished with a complete and exact map of the existing mains in the streets of New York.

Q. Would not that be a very expensive proposition to run mains under the subways existing and projected in the City of New York?

A. It is impossible to say until a study has been made of the locality.

Q. Would you think that it would probably be less than millions of dollars to rearrange the mains with the present and proposed subway structure?

A. It would be utterly impossible to say because there is no information furnished.

Q. You have not prepared any estimate of the cost of installation of such a system then?

A. I have not been able to do so.

Q. You from time to time in walking the streets have seen the conditions down town, I suppose, and in other sections of
2434 the city as to sub-surface structures?

A. I have noted them with a great deal of interest and care.

Q. And you know the lines the subways follow?

A. Yes.

Q. And the projected subways?

A. No, I do not.

Q. Now you have made an estimate of the increased sales of gas to and including the year 1907, and you have testified that the sales you believed of the Consolidated Gas Company in 1907 will be 15,342,000,000 feet and some over. Does this include the gas which is acquired by the Consolidated Gas Company from the other companies as well as of its own manufacture?

A. That point was not taken into consideration at all, as to where the gas was to be produced from.

Q. You gave an estimate of the entire sales of all of the companies in Manhattan for 1907 as 22,569,000,000 feet and something over. Did that include all the gas put out by those companies, including

the gas which they have been delivering to the Consolidated Gas Company?

A. It had nothing to do with any company or companies. It was simply the amount of gas which it was probable that the consumers of the Island of Manhattan would demand for their use and would be willing to purchase at 80 cents, irrespective of its source.

Q. That was limited then to sales and not to manufacture, so there is no possibility of duplication there?

A. That is it.

Q. What percentage of increase did you assume in reaching that conclusion?

A. No percentage of increase was assumed.

Q. Did you take the rate of increase as shown in 1899 and 1900 during the gas war in getting a unit from which you could deduce the increase?

A. During the gas war, a period of two years, of which it occupied the middle twelve months very nearly, the price of gas was
2435 reduced by about thirty-three cents. In order to find the amount of increased sales per capita due to each cent, I took the increase of sales per capita in that two years and divided it by thirty-three cents, which gave me 46½ cubic feet in round figures as the increase per capita due to a reduction of one cent. I then took the proposed reduction of twenty cents and multiplied it into 46½, and it gave me about 929 cubic feet as the probable increase per capita due to reduction in price of twenty cents. That then was taken and added to the existing sales per capita which I had, without reference to anything that had been stated to me, deduced as about 9,250 cubic feet. I ought to say, by the way, that Dr. Humphreys and Vice-President Addicks, one or both of them, agreed upon 9,150 to 9,250 cubic feet, in other words, without any attempt on my part, it corroborated my figures to within about one per cent.

Q. Present output per capita?

A. Yes, 1905. I then added 929 cubic feet to the 9,250 and it gave me 10,179 cubic feet as the probable output per capita during the year 1907, on the assumption that all the gas companies would accept a price of eighty cents.

Q. Did you take into consideration whether that increase at the time of the gas war was due to extraordinary expenditures on the part of the companies or whether it resulted in a corresponding profit to the companies or whether the new business was acquired at an unnatural expense?

A. All of those matters are, of course, outside the possibility of my knowledge. The influence that most strongly urged me, I should say, is my knowledge of the enormous quantities of gas sold where natural gas, costing nothing, is offered at forty cents, thirty-five cents, thirty cents and so on down to ten or twelve cents.

2436 Q. There is no natural gas delivered in New York, is there?

A. No.

Q. You know, do you not, that during the period in question, these companies were making every endeavor, even to laying mains

in the streets where the Consolidated Gas Company already had mains, to procure business at almost any expense?

A. I know that has been done in New York City.

Q. Is it not your information that that was the situation at that time, Professor? You lived in New York City at that time?

A. I was here off and on during that time.

Q. Is not that your information, that they were using every expedient to procure business?

A. I cannot say that it was anything more than a general impression.

Q. Was that you general impression?

A. That was my general impression.

Q. Did you compare the increase per capita during those two years with the increase per capita at the time of previous reductions in the price of gas to see that that was not an excessive increase compared with normal conditions?

A. In a general way the curve shown to you here on the chart shows very clearly that every reduction in the price of gas has, without any very exact figures being attached, always immediately been responded to by an increase in the output per capita. It is apparently a general law. As for instance, when the price of gas in 1897 was $1.20, the output per capita is shown as 6,311 feet, and again in 1898 at $1.15 as 6,595 feet. That is not a long enough period, nor does it happen to coincide so perfectly with the existing conditions as does the period for 1898 and 1900, which was selected for that reason.

Q. Was it not selected for the reason that there was a gas war at that time and the price of gas was reduced somewhat?

A. If I had not known of the existence of a gas war, I
2437 would from this curve, in seeking what I wanted, have selected that as as fair and impartial a basis as I could find, acting entirely without any partisan spirit of any sort or kind.

Q. Is it not true that the sales of gas per capita is increased and has increased at just as great proportion when the price remained stationary as when it has been dropped, does it not so appear from your chart to be the case?

A. It does not. On the contrary it shows that the increase per capita in the year 1905 became a decrease as compared with the year 1904, and that from 1903 the increase to 1904 per capita was very small. This is verified too, by a reference to the chart of The Bronx.

Q. During the years 1902 and 1903 the price remained a dollar in the City of New York, didn't it?

A. It did.

Q. According to an exhibit in evidence, the sales per mile of main increased from 14,340,225 feet to 16,112,865 feet during that twelve months.

Mr. BURR: From what exhibit are you reading those last figures?

Mr. MATHEWSON: I cannot tell you the exhibit.

Mr. BURR: What statement is it?

Mr. MATHEWSON: Average sales per mile of mains and average sales per active meter, which was put in evidence some time ago.

Q. That had no relation to any change in price. What in your judgment was that due to?

A. Looking at the charter for 1901——

Q. 1902 to 1903?

A. And 1902, taking those as consecutive, there appears to be an increase in sales per capita of 563 cubic feet, an increase of sales per capita; and I am not talking about the gross sales; and
2438 the population going forward steadily. Following that now, further to 1903, there appears to be an increase of 730 cubic feet per capita. In both those cases that increase is due to the life and the increased population of a metropolis. The study of the case shows decidedly that with the increased population and the manner of life of a metropolis that the demands, the individual demands per capita are greater than they are in smaller cities. Going up to 1904 a reverse movement begins. It has slowed down very much there.

Q. Do you know what the increase in sales of the Consolidated Gas Company was for 1905 compared to 1904?

A. I can figure it for you if you like.

Q. Gross sales?

A. It appears from the chart to be in the neighborhood of 113,404,000 cubic feet, if I have not made a mistake in my figures.

Q. In output 113,404,000?

A. In both of these cases it is taken from the testimony, in 1904 and 1905, the testimony before the Gas and Electric Commission. It is the sales and not the output.

Q. As a matter of fact, do not the sales per capita for 1905 appear by your chart to be less than they were in 1904?

A. Yes, they are.

Q. So there was a drop there which could not have been due to any raising in the price of gas?

A. It was due to the fact that the price was not dropped.

Q. But it was not due to any raising in the price of gas was it?

A. There was a slight raise between 1904 and 1905, of just one cent.

Q. What, one cent?

A. Yes, in 1904 the price of gas was averaged at 99 cents and in 1905 it averaged at one dollar.

Q. But don't you know that the private consumers in the City of New York paid one dollar in both these years and that any
2439 difference is due to the amount that went to the city or some other feature of that kind?

A. I presume that is the case.

Q. So that there was a drop there in spite of the fact that the price of gas remained stationary?

A. There was a drop there in the output, per capita, yes.

Q. Now, is it not a fact that in 1902 and 1903 the large increase in the sales of the company both in per capita and gross sales was largely due to the coal strike which compelled people to use gas for

fuel and had no relation to price so long as the price remained identical for those two years?

A. I have had no opportunity to look into that matter.

Q. Have you any doubt about that, that the coal strike had a large influence on the increase?

A. I expect it had.

Q. Then you do not think that every increase in the sales of gas per capita and in gross is due to the price at which it is sold?

A. Speaking of specific instances, other factors can come in and influence the consumption per capita, as you have mentioned, but on the other hand it is proper to say that the reduction in price will cause an increase in sales per capita.

Q. Did you not say in your book, to which reference has been made, at page 213, that "it must not be assumed that in every instance reduction in price will insure increase in consumption per capita, as might at first appear to be the case?"

A. Looking at this in connection with the context——

Q. I simply asked you if you so stated in your book. I would like to know in the first place whether you did say so before you explain it?

A. In connection with the context, "Instance" refers to the various cities of the State of Massachusetts.

Q. You have taken the cities of the State of Massachusetts and compared them with conditions in New York in your pre-
2440 vious testimony, have you not, certain cities?

A. I have been very careful not to do so in the matter of the cost of gas.

Q. We are speaking now about the effect of a change of price in sales per capita, and I asked you whether you did not say in your books that "it must not be assumed that in every instance reduction in price will ensure increase in consumption per capita, as might at first appear to be the case?"

A. I did so, meaning by the word "Instance," cities.

Q. Now, if you have a per capita consumption the largest of any city in the world already, there is not that same opportunity for increase in consumption per capita as there would be if the per capita consumption of New York were very small, would there be?

A. There is even greater opportunity.

Q. You think there is no limit to the increase per capita consumption?

A. There is no limit.

Q. Do you expect to continue increasing at the rate you have indicated forever?

A. If you are able to reduce the price, yes.

Q. Is not there a point where people use all the gas they need and no price will induce them to buy more gas than they need merely because it is cheap?

A. That point might be found in some of the communities using natural gas, but it is a long ways beyond anything that has ever been heard of in New York.

Q. Do I understand you to say that natural gas costs nothing?

A. To manufacture.

Q. Well, but it costs something before it reaches a consumer, doesn't it?

A. Certainly.

Q. Does it not cost something before it reaches the distributing system?

A. It has to be distributed.

Q. Does it not cost something before it reaches the distributing system at all?

A. It may cost the investment in a well.

2441 Q. Do you know how many cents per thousand it does cost ordinarily before it reaches a distributing system within a reasonable distance?

A. That cannot be stated. In every individual case of drilling for natural gas it varies and is different.

Q. Does not a period of prosperity or a period of depression affect the sales of gas like the sales of any other commodity for which people have to pay their money?

A. I can only give you my impression on that point, and it is that gas and flour and two or three other things of that sort are not varied by any season of prosperity or the reverse to any appreciable extent.

Q. You do not think then that the period of prosperity which we have been going through from 1896 down to date has anything to do with the increase in the sales of gas of the Consolidated Gas Company?

A. I could hardly say that, because it has undoubtedly caused the erection of many buildings requiring gas, but it has not varied the use of the individual consumer very much.

Q. Well, now, let me call your attention to the exhibit in evidence, which shows that in 1893 beginning for that year that the sales of gas in gross by the Consolidated Gas Company per mile of mains were 8,812,618 cubic feet, and that in 1897, which e ded the period of depression five years later, the sales per mile of mains had actually fallen to 8,567,832 cubic feet. Don't you think that that failure to increase and the actual fall during those five years had some relation to the period of depression through which the country was going from 1893 to 1896?

A. Has any statement been made as to possible variation in the lengths of mains during that period?

Q. Oh, yes.

A. Is it given there?

Q. It is. It is given in one of the exhibits of the case.

A. No, but I mean in this case what was it?

2442 Q. In 1892 the miles of active mains from which services were then operating was 777 and a fraction miles, and in 1897 it was 792 and a fraction miles, that is only fifteen miles difference.

Mr. BURR: What page are you reading from?

Mr. MATHEWSON: It is from page 2192 of the Gas Commission record.

A. From this—I may be wrong in my computations—it appears

that in 1897 the miles of active main were 792.60 and in 1893 the miles of active main were 777.75. The difference between those is 15 miles, or something over two per cent. increase.

Q. In the miles of main. Now taking the gas for the same time in 1893 the sales per miles of main were 8,813,000, and in 1897, 8,567,832 or 8,568,000, and the difference is 254,000 cubic feet, which is somewhere between two and three per cent. of the highest output which was in 1893. The one balances the other to a large extent, showing that the total output has probably not largely increased.

Q. That all may be so, but isn't it the fact if this exhibit is correct that in spite of an increase of 15 miles in active main the output per mile of mains in 1897 at the end of the period of depression was actually less per mile of mains than it was in 1893?

A. No, there were more miles of mains.

Q. But the output per mile of mains was less in 1897 than in 1893?

A. Yes.

Q. Now will you look at the same table and say whether it is not a fact that the sales per meter which were 37,863 feet in 1893 has fallen to 30,393 feet in 1897 at the end of the period of depression?

A. It is so stated.

Mr. BURR: You are reading from Exhibit 168 before the Gas Commission as it appears upon page 2192?

2443 Mr. MATHEWSON: I have that before me but I am quoting figures which are a part of the evidence in this record.

Q. Do you know in what city the consumption is next largest per capita to the city of New York—I mean what city in the world?

A. It is conceded in the evidence by, I think, Dr. Humphreys, if not Vice-President Addicks, that London is with from 8,000 to 8,500——

Q. You know that the price of gas was reduced there, do you not, from 1901 on substantially by the various companies, or haven't you studied Field's Analysis to that extent?

A. I know of but about one or two years of Field's Analysis of late. It is an old book that has been published a long time. I have not studied enough——

Q. But from the 1905 Field's Analysis it seems to appear that there was a very substantial percentage of reduction in the price of gas from 1901 on and that the rate of increase in London for 1901, the average rate of increase of all the Metropolitan companies, was .92 of one per cent. in 1901, .85 of one per cent. in 1902, an actual decrease of .56 of one per cent. in 1903, an increase of 2.98 per cent. in 1904 and an increase of .49 of one per cent. in 1905, in spite of the reduction in the price of gas. If that is correct, how do you account for the failure to increase at anything like the ratio you have suggested for New York?

A. I am not sufficiently familiar with London, the place is too distant, the customs and the precedents of the place are too fixed to be compared with any community in the United States.

Q. But if the increase in the United States in the use of gas is

due to a reduction in the cost, is not London with its shorter
2444 days and foggy days and atmosphere in general more favorable to the use of gas than New York City.

Mr. BURR: That is not in the evidence here.

A. I was very careful in my discussion to confine this to facts in the city of New York, relating those and even avoiding the facts in cities close by New York. I know nothing about the conditions that you stated. I have not familiarized myself with them although it would be very easy to do so.

Q. I thought I heard you refer to the London companies and I supposed you had fully posted yourself on that subject, Professor.

A. I had stated that I considered New York as entirely different from any other community and that too after very careful consideration.

Q. In other words you think that the increase of gas in New York City will be different from the rate of increase in any other city in the country that you know of?

A. Take for instance the case of Philadelphia, I wouldn't think for one moment of comparing the possibilities of Philadelphia with the possibilities of Manhattan Island.

Q. But the output per capita in Philadelphia is not anything like so large now as it is in the Island of Manhattan, is it?

A. I heard the president of the United Gas Improvement Company say not very long ago that it was about 7,500 per capita in Philadelphia.

Q. Now, I would like to have you state if there is any limit, up to what consumption per capita you may select an increase of consumption of gas by the ratio which you have specified, at an increase of 46.46 feet, for the reduction of each one cent in price, or isn't there any limit whatever?

A. I was very careful to limit myself to two years.

Q. My question is how long that is to continue and up to
2445 what limit of consumption?

A. I decline to answer beyond two years.

Q. Now, you based your estimate of the consumption of gas in 1907 to some extent, did you not, upon the increase in population in the city which you anticipated?

A. I did.

Q. And is it your supposition that the increase of population in Manhattan Island will continue to increase at the proportion which you took?

A. For two years, yes.

Q. For longer than two years?

A. I don't know.

Q. You have to face a more distant future than two years, have you not, when you will determine the price at which gas shall be sold for the future?

A. If you are safe for two years you are safe for what is beyond that.

Q. Are you familiar with the report of the Commission on additional water supply for the City of New York?

A. I am not.

Q. Will you look at this volume which I show you, entitled, "Messrs. Burr, Herring & Freeman, Engineers," and see what they estimate the population of Manhattan Borough to be in 1925, looking forward some distance.

A. On page 67 you refer to an estimate of Messrs. Burr, Herring & Freeman, 2,130,000.

Q. For 1925, is that correct?

A. For 1925.

Q. And what is the estimate for the other boroughs as specified in that estimate?

A. Bronx 675,000; Brooklyn, 2,705,000; Queens, 680,000; Richmond 130,000.

Q. In other words, their estimate for Manhattan in 1925 is less than your estimation of population for the Borough of Manhattan in 1907, isn't it?

A. 2,130,000, is it?

Q. Yes.

A. That allows an increase to 1925 from the present State census of population of 2,112,380 to 2,130,000.

2446 Q. In other words, they anticipate, do they not, that with the lines of communications to other boroughs and so forth, that the population of Manhattan in 1925 will not be substantially greater than it is to-day?

A. That seems to be their theory.

Q. They are all engineers of repute, are they not?

A. They are.

Q. Now, taking your estimate of the output in 1907, based upon your assumption of increase in the sales per capita and likewise upon your assumption of increase of population, you figure that at 80 cents per thousand the income of the company in 1907 will be only about one million dollars, or to be exact, $956,957.18, less than it was in 1905. But you have provided there for the manufacture and distribution of something like two billion feet of gas in 1907 beyond that distributed in 1905, have you not?

A. Yes, I have predicted that.

Q. It will not be possible then to apply whatever profits you get in 1907 to a return on the same limited capital investment which you have in 1905, will it? In other words, will it not require additional investment in capital in order to provide for the production and distribution of this extra two billion feet of gas?

A. I am not sufficiently familiar with the conditions of these works and stations of the Consolidated Gas Company to express an opinion on that point or as to the amount required.

Q. But you testified that the plants of the Consolidated Gas Company, according to the testimony, had already reached their maximum capacity, taking the daily capacity and multiplying it by 200?

A. I testified that it so appeared, but it is only apparent——

Q. Well, if it so appears and if it so is, because that is the testimoney of the officers of the company, and if you assume that $2.00 is required to provide plants for the production and distribu-

2447 tion of each 1,000 feet of gas as you testified yesterday to be your opinion, that would mean an additional plant, would it

not, of about $4,000,000 in addition to the existing plant to provide for the extra two billion feet in 1907 over 1905?

A. I should say that in a general way and as a matter of opinion merely that the plant would increase in cost with the output, assuming the increase of plant to have been in the past what it will be in the future.

Q. The profit in 1907 even if reduced below the profit of 1905 by only this $956,000 must take care of and pay a return upon a plant value in excess of the plant value existing in 1905 of about $4,000,000, if you are correct in your assumptions; is that not correct?

A. If the plant had been established on the basis stated by my figures then that would be correct, partially. Of course with a larger plant you can always expect a decrease in the cost of manufacture somewhat, and certainly if you have an ample distributing system a very considerable decrease in the cost of distribution.

Q. But whatever increase there may be it will not be possible to apply the income of the company in 1907, which will be less upon your theory by $956,000 than that for 1905, to pay a return upon only the plant of the Consolidated Gas Company as existing to-day and producing the gas which it now sells; is that a fair statement. In other words, you have reduced the income by a little less than a million dollars, if your theory is correct, and you will have a greater plant and investment than you have to-day, upon which a return will properly be paid, is that right?

A. To answer you in figures on that point——

Q. I don't ask you to answer that in figures. I ask you whether that is the fact.

A. The question is not sufficiently concise and clear for a concise and definite answer.

2448 Q. I will put it this way: You expect, do you not, that the investment of the Consolidated Gas Company in its manufacturing and distributing plant in 1907, if its output is fifteen billion feet and more, will be greater than the investment required to-day with its output of thirteen billion feet and more?

A. Yes.

Q. And at the same time you estimate that the income of the company will be reduced a little less than a million dollars?

A. The gross income.

Q. The gross income a million dollars.

A. Yes.

Q. And assuming the cost of gas is the same in 1907 as it now is the net income will be reduced by the sam- sum, will it not?

A. Yes; no, the net income will not, excuse me.

Q. Well, why not. With the gas being produced at the same cost in 1907 as it is produced now?

A. Because the profit is on each thousand and the number of thousands turned out in 1907 will be larger than the number of thousands turned out in 1905, and consequently the net profit will be larger in 1907 than the net profit in 1905.

Q. We will assume that the gas costs the same in each year, Professor. You figure out in your testimony that the return in 1905 to the Consolidated Gas Company was $13,000,000 on account of its

gas sales, and you then figure, do you not, that taking the output of 1907 as estimated by you at 80 cents, the company would receive only something more than $12,000,000, making an actual decrease in its gross receipts of $956,957.18, is that correct?

A. That is a correct statement, with this qualification, if you please, that I accepted the figures of the company for the sum of $13,000,000——

Q. Oh, I understand that, Professor.

A. Yes.

Q. In other words, the company in 1907 would sell something like 2,000,000,000 feet more of gas and it would receive in
2449 gross $956,000 less in revenue, and at the same time have an increased plant and investment in 1907 upon which it must pay a return above its investment in 1905; is that a fair statement or is not that true?

A. The difficulty in making reply to that question——

Q. Can you not answer?

A. (Continuing)—is due to the fact that the statements of the Consolidated Gas Company's accountants were compared with the statements resulting from computations on a projected possible gas sale at a price of 80 cents. If 13,300,000,000 cubic feet of gas are sold at $1 per thousand, it will produce a gross revenue of equal amount, that is $13,300,000.

Q. If 15,300,000,000 cubic feet of gas were sold at 80 cents——

Q. Won't you look at page 2281 of your testimony——

Mr. BURR: Let him complete his answer, please.

The WITNESS (continuing): It will produce a gross revenue of $12,240,000.

By the MASTER:

Q. That is how much less than the other?

A. About $900,000 less.

By Mr. MATHEWSON:

Q. You testified yesterday that the receipts in 1907 upon that basis would be $956,557.18 less?

A. That is more accurate.

Q. Now, I will ask the stenographer to read to you my last previous question again, and ask you whether, assuming the testimony of the company's officers as to the amount of gas sold and the
2450 amount received for it to be correct, my question does not state an accurate conclusion.

The STENOGRAPHER (reading question as follows): In other words, the company in 1907 would sell something like two billion feet more of gas and it would receive in gross $956,000 less in revenue and at the same time have an increased plant and investment in 1907 upon which it must pay return upon its investment in 1905, is that a fair statement, or is not that the truth?

A. Under the assumption of $2.00 capitalization per thousand cubic feet this statement is correct.

Q. Well, if it was $1.00 additional investment required for an additional thousand cubic feet it would still be correct, wouldn't it, and merely involve the question as to how much the investment would have increased in 1907?

A. That is merely a question of proportion.

Q. And at the same time the company would have to pay the cost of the additional two billion feet of gas and over which it sold in 1907, would it not?

A. The cost of manufacture and distribution.

Q. Yes.

A. Yes.

Mr. BURR: If you have finished on that point I have a witness from Philadelphia I should like to call for five minutes to verify this statement as to the price of gas by the accountants that I referred to at the time that we offered in evidence the report of the Chicago Gas and Electric Board.

Mr. MATHEWSON: I don't know, I might want to cross-examine him at some length. I have been forced on to the cross-examination of this witness on the stand and I do not think that I ought to assume that I can get through with him immediately. I
2451 want to accommodate as much as I can, but——

Mr. BURR: I simply want to call him to verify the letter that is now in evidence that the accountants employed by the City of Chicago found the cost of gas to be as stated in that letter.

Mr. MATHEWSON: If they wrote that letter.

Mr. BURR: No, that this man directed the investigation and that was the result as stated in that letter.

Mr. MATHEWSON: I do not think I can consent to five minutes intermission for that purpose. I am afraid it would take too long, Mr. Burr. I think he had better stay over. I may have quite a cross-examination on that point, if that is supposed to be competent at all.

Mr. BURR: Well, I will bring all the witnesses you require on that point. Then you decline to allow me to call him for that purpose?

Mr. MATHEWSON: No, I do not decline. I merely say I do not think it would be wise because he could not get through in five minutes, I know.

Mr. BURR: How long would you probably take?

Mr. MATHEWSON: I don't know. I would have to look into the report to which you refer and it might take some time. I should hate to have him put on and then be compelled to cross-examine him as you might ask me to, right on the spot.

Mr. BURR: Would you let me put in the direct testimony and reserve the right of cross-examination to some later period?

Mr. MATHEWSON: Yes, I will do that.

2452 The MASTER: You agree to reproduce him here or else strike his testimony out?

Mr. BURR: Yes.

(Witness withdraws).

JAMES HALL, a witness called on behalf of the City, being first duly sworn, testified as follows:

Direct examination by Mr. BURR:

Q. Are you connected with the firm of Marwick, Mitchell & Company?
A. Yes, manager of the Philadelphia office.
Q. Marwick, Mitchell & Company are engaged in what business?
A. Chartered accountants.
Q. Are you a chartered accountant?
A. Yes, sir.
Q. How long have you been engaged in that?
A. I have been in the business thirteen years.
Q. Was the firm of Marwick, Mitchell & Company employed by the City of Chicago to invest the accounts of the People's Gas & Coke Company of Chicago, Illinois?
A. Yes, sir.
Q. In what year?
A. In the course of the year 1905.
Q. Did you conduct the examination for them?
A. Yes.
Q. Did you make a report to the City of Chicago?
A. Yes.
Q. I show you page 40 of the Report of the Committee on Gas, Light and Electric Light to the City Council of Chicago, January 29, 1906, and ask you whether the paper marked Exhibit A is a correct copy of the report made by you on behalf of the firm of Marwick, Mitchell & Company?
A. Yes, that is a correct copy.

Q. And did you find, as a matter of fact, the difference
2453 which is stated here of 8.0746, being the difference as between the price stated of 53.5294 of the Gas Company and 45.4548 as revised by Marwick, Mitchell & Company?

Mr. MATHEWSON: Is that part of the report?
Mr. BURR: Yes.
Mr. MATHEWSON: Are you referring to a statement in the report?
Mr. BURR: In the report.
Mr. MATHEWSON: Then I object to it. The report is the best evidence as to what it says.

Q. Did you find, as a fact, a difference between the cost of manufacturing as stated by the People's Gas Light & Coke Company, and what you found as the result of such examination of their accounts as you have stated you made?

Mr. MATHEWSON: Objected to as irrelevant and immaterial. Is the presumption that we are doing the same thing, or what——
Mr. BURR: Well, we will not indulge in presumptions at this stage.
Mr. MATHEWSON (continuing): If he found a difference between what the company gave and the figures that he figured out——

Mr. BURR: It is fully stated in this report which is identified and here is a copy of the report which he swears is a copy.

The MASTER: I will have to exclude it, Mr. Burr, unless you can show something more than appears on the surface as showing it is relevant and material here.

Q. What was your examination of the books of the People's Gas Light Company?

2454 By Mr. MATHEWSON:

Q. Does that not appear in the report itself as to what the result of the examination was?

A. Yes, sir.

Mr. BURR: But if he knows of his own knowledge, having made the examination, he is competent to testify. If he can swear to it as a fact I think he is entirely competent to testify to it as a fact. The mere fact he has made a written report does not preclude him from testifying what he finds himself, if he knows it to be the fact.

The MASTER: Is the evidence competent anyway? That is the part that suggests itself to me.

Mr. BURR: I asked Doctor Marks what was found to be the price of the manufacture of gas in Chicago?

The MASTER: The cost.

Mr. BURR: The cost of the manufacture of gas in Chicago. He gives it at a certain figure and it is objected to and I say I will verify that by the accountants who found it. Now we went to the accountants——

The MASTER: The accountant has testified he examined the books and made a report on them. Now suppose that he testifies one way or the other about this, how is it possible in this proceeding here, without taking out a commission and going to Chicago to have his testimony of any value? How is it possible to cross-examine him? How is it possible to say whether his examination of the books was complete or accurate?

A. You have not got the books here and you cannot produce them here.

Mr. BURR: I will ask him this question:

2455 By Mr. BURR:

Q. Is it not a fact that the cost of manufacturing and distributing gas, including renewals in the City of Chicago, was stated and claimed by the People's Gas Light & Coke Company to be 53.5294, and that as a matter of fact as a result of your investigation you found the cost of manufacture and cost of distribution including renewals to be 45.4548, making a difference of 8.0746 between the cost as claimed by the company and the cost as found by you as a result of your examination which you testified you made?

A. Yes.

Mr. MATHEWSON: Objected as incompetent, immaterial and irrelevant.

Objection sustained; exception.

Q. That is the fact?
A. Yes, sir.
Q. Did you make a thorough examination?
A. Yes, sir.
Q. With assistants?
A. With assistants, yes, sir.
Q. What was the scope of the examination?
A. We went thoroughly into all the vouchers and further examined all the payrolls and work tickets as used and turned in by the laborers, checked them up against the laborers for the purpose of determining whether all the charges in the revenue accounts were proper charges.
Q. And distinguished between maintenance and capital expenditures?
A. And distinguished between maintenance and capital expenditure.
Q. Could you have made the report you submitted without having made the examination you made?
A. No.
Q. And for the purpose of ascertaining what should be applied to the cost of manufacture and distributing, was it necessary to analyze the maintenance and revenue accounts?
A. Absolutely.

2456 Mr. BURR: That is all. The understanding is that your testimony is taken now, but at a future time at the convenience of counsel you will appear for cross-examination.
The WITNESS: All right, sir.

WILLIAM D. MARKS resumes the stand.

Cross-examination by Mr. MATHEWSON continued:

Q. In reference to your chart showing, or purporting to show, the sales per annum made in 1888 down to 1905 and the sales per capita, there are no details of the chart, are there, which are within your personal knowledge, so far as the figures of output, population, etc., are concerned?
A. I have not operated any works or measured any of the gas.
Q. But it is made up from whatever information you have gathered from Brown's Directory and in some cases your estimate, without personal knowledge on your part, isn't it?
A. My main reliance has been the testimony before the Gas and Electricity Commission.
Q. But there was no testimony given before the Gas and Electricity Commission for any period back of 1900, was there?
A. The list of the total output of the Consolidated Gas Company is given beginning in 1884 and in one of the exhibits and that was utilized from 1888, and as the Consolidated Gas Company appears to have gotten out about two-thirds of all the gas sold on the Island of Manhattan, it made a preponderating quantity which rendered any estimate which might have been slightly one way or the other of comparatively little significance as sources of error.

2457 Q. Was there any such data before the Gas Commission in reference to any of the other companies except the Consolidated Gas Company—I mean sales each year from 1884 down?

A. Referring to the chart, the Standard Gas Company in 1904, from the testimony——

Q. Yes, my question was whether back of the year 1900 there was any testimony before the Gas Commission as to the output of sales of gas of these various companies other than the Consolidated.

A. In 1899 the New York Mutual Gas Company was taken from testimony——

Q. Anything back of that?

A. And the New York Mutual in 1898 and the New York Mutual in 1896.

Q. From what testimony?

A. Testimony given either in the Stevens Commission or before the Gas and Electricity Commission.

Q. Do you remember which?

A. I don't remember which. It is marked "T." It can be found. In 1897 the New York Mutual, in 1895 the New York Mutual, from testimony. And then from 1894 back to 1888, Brown's Directory——

Q. How about the other companies, the New Amsterdam and the Standard?

A. The New Amsterdam Company is from Brown's Directory with intermediate estimates.

Q. Do you know who estimated those intermediates?

A. I did, with the aid of my assistants checkers.

Q. Do you know where Brown's Directory got the figures?

A. Mr. Brown stated he got them by making direct application and sending blanks to the various gas companies, getting his figures from the officials of the companies.

Q. Did he tell you he got the statement from the Standard and New Amsterdam Company?

A. No, he did not specifically name any company.

2458 Q. And the proportions of output which apply to the Consolidated and the per capita and other items there depend then for their accuracy upon these estimates and the information from Brown's Directory, except as far as they appear in the testimony before the Gas Commission — the Stevens Committee, do they?

A. With the exception of the output per capita for 1905 on which I lay a great deal of stress, being 9,250; independent investigation and corresponding very closely to the 9,150 or 9,200 given by Mr. Addicks as a result of his presumably thorough knowledge of all the gas works of Manhattan.

Q. You know he has only been here two or three years, don't you, Mr. Marks, in New York City—do you know that?

A. I knew that he had been here for two or three years.

Q. Do you mean to say he told you he was thoroughly familiar with all the gas works of these other companies outside of the Consolidated?

A. Average ability in a man who had been here two years ought to be able in his position to obtain every figure that was necessary.

Q. If he was directing his attention specifically to getting those figures, that might be so, but do you think he would have in his mind all of these items upon those books with reference to the plants of other companies after being here two years?

A. It would certainly be part of his duty as manager of so stupendous a corporation to post himself thoroughly on all these figures.

Q. Away back to 1888?

A. As far as he can go.

Q. Do you consider that the increase of the per capita sales on which you have figured will come from sales to new consumers or from the increased sales to the old consumers?

2459 A. So far as the population increase influences from sales to new customers; so far as the reduction of price influences, from all the consumers, both old and new.

Q. Will there not be a point where there will be no new consumers except as population grows?

A. I fail to grasp the question.

Q. Well, there will be a point ultimately where there will be no new consumers except by the increase in population? I am trying to find whether there is any limit to your assumption or not?

A. That seems to be rather an academic question.

Q. Well, perhaps it is.

A. Well, I don't know, I am frank to say.

Q. Is it not true that the greater the output of gas as a rule the smaller the consumption per meter?

A. No, indeed.

Q. So that the increase in the gross output results rather from an increased number of consumers than from the consumption by each consumer of a larger amount of gas?

A. That is purely a theory.

Q. Well, is it not carried out by the testimony in this case that shows that in 1885 the sales per meter were 36,038 feet with gas at about $1.70, whereas in 1905 there were only 34,031 feet with gas at $1.00, a reduction of seventy cents. Is that not the experience of the Consolidated Gas Company, if the testimony here is correct?

A. The causes of that I cannot say.

Q. I ask you whether that is not the experience of the gas company, if the testimony here is correct?

A. The experience of the Consolidated Gas Company?

Q. Yes.

A. I presume as you state it is so.

Mr. BURR: The figures speak for themselves, if they are true.

Q. Well, what is the explanation of that?

2460 A. There is nothing so helpless as a big corporation with an antagonistic lot of consumers and patrons, and even though the corporation may be entirely fair in its attitude, really, if the community is against them they lose all the time; people must have gas but they will use just as little as possible.

Q. They use more than they need if they like the corporation, is

that correct, or do they use what they need and pay only for what they need, whether they like the corporation or not, in your experience?

A. Their attitude is not rational, perhaps, but they are more generous towards those whom they feel very friendly to. I speak of that as a factor of real value in the management of any corporation.

Q. Will you state any company of which you have ever known where there has been an increase of sales per meter with a large increase in the output of gas?

A. I have never studied the question of the sales per meter, but always as a question of the sales per capita, in a community.

Q. Is it not true that where the company pushes for more business that it as a rule has the larger consumers already on its lines and that the result of its efforts is to get the smaller consumers on, thereby reducing the average and is not the same effect observable where you put out prepayment meters? Does not that all tend to reduce the average consumption per meter as you increase the number of your consumers?

A. Each and every company whether of gas or electricity is a study by itself. You cannot enunciate any generality or law of that sort. It depends upon the community that it happens to be in.

Q. You say you read the testimony before the Stevens Committee and the Gas Commission. Do you recall Professor Bemis' statement before the Gas Commission in substance that local conditions govern the cost of gas in a community and that it cannot be deter-
2461 mined from general data?

A. I do not recall it as a specific statement.

Q. You testified that in reference to the cost of gas no examination of the plants of the company has been made and that no examination by experts of the company's books has been made. Were you not aware that the Gas Commission examined all the plants of the Consolidated Gas Company with their engineer, going over them so far as they desired, including the Astoria plant and that the order fixing the price of gas recites their inspection?

A. I testified of that which I had personal knowledge. I know nothing about the doings of the Gas Commission and there was nothing specific and no reports given showing an inventory or an accountant's statement of the investigation.

Q. Did you testify yesterday that the reports of the Gas Commission and of the Stevens Committee were made without any opportunity to inspect the plants or without an inspection?

A. I should change that, perhaps, without making any report of the inspection of the plant and without making any accountant's report of an inspection of the books——

Q. Now, Professor, in view of your statement yesterday, I think it is proper to call your attention to this recital in the order of the Gas Commission fixing the price at 80 cents, page 46 of the complaint: "The said Commission having investigated as to the causes for such complaints and inspected the works, system, plants and methods used by said Consolidated Gas Company in manufacturing and distributing such gas and having examined the books and papers of such company pertaining thereto." Now, do you mean still to say

that the action of the Gas Commission was without any in-
2462 spection of the plants of the Consolidated Gas Company and without any examination of their papers or vouchers?

Mr. BURR: I object to it. How does he know? He does not assume to say——

Mr. MATHEWSON: He should not have said so.

A. I do not assume to say that their action by themselves was without due precaution so far as they are concerned but I do assume to say that they made no report which would enable anybody else save themselves to form any opinion either as to the value of their inventory or as to the value of their accountants' report.

Mr. BURR: There is no inventory in the proceeding and no accountants' report.

Mr. MATHEWSON: That is not the point. It is one of many statements, I am sorry to say, that should not have been made.

Q. Why did you state, if you have not any knowledge on the subject, that the action of the Gas Commission was without any examination of the plants of the Company or their books and vouchers?

A. May I see that statement?

Q. Don't you remember such a statement in substance?

A. I do not recall such a statement.

Q. Well, you have your testimony of yesterday?

A. Well, you are referring to it. If you will kindly show it to me——

The MASTER: Was it yesterday or day before yesterday?

Mr. MATHEWSON: Day before yesterday, I think.

Q. Did you read the testimony of Mr. Arthur W. Teal before the Stevens Committee?

2463 A. I read with a great deal of interest his statements as to the cost of gas for four or five years.

Q. Do you know he was the expert engaged by the Stevens Committee to examine the books of the Consolidated Gas Company at the time of their investigation in 1905?

A. I knew he was an accountant engaged for that purpose.

Q. By the Committee?

A. By the Committee.

Q. And did you observe his statement that the cost of gas for those four or five years was 61 and a fraction cents, excluding fixed charges and any reserve fund and also any amount to equalize repairs and renewals with an average term?

A. I noticed that.

Q. Well, you had at least that data to assure yourself when you proceeded to examine the cost of gas, didn't you?

A. I beg your pardon, I have no confidence in that data at all.

Q. Oh, you have not?

A. No.

Mr. BURR: He may state his reasons, I suppose?

Mr. MATHEWSON: No, I do not care anything about his reasons,

I assumed that the Stevens Committee expert who examined the books was worth something.

Mr. KIRBY: Mr. Mathewson knows how far he went in his examination.

Mr. BURR: He totaled up the totals, which is what you wanted us to do.

Mr. MATHEWSON: I don't know, I supposed it was entitled to some consideration.

Q. Do you know that his conclusions and statements as to the cost of gas for five years were quoted by the Stevens Committee in their report?

A. Why, yes.

Q. Do you know that in the present case experts represent-
2464 ing the city and the State or one or the other have been at the office of the Consolidated Gas Company for two or three weeks going through the accounts of the Company with reference to the cost of gas among other things, that is Exhibit 94.

Mr. BURR: Objected to as incompetent, irrelevant and immaterial.

Mr. KIRBY: And a misstatement of what was in fact the case.

The MASTER: Objection overruled.

Mr. BURR: May he explain then?

Q. Did you know that?

A. Am I to answer, Mr. Master?

The MASTER: Yes.

The WITNESS: I heard so. It had no influence on me at all, though I was perfectly indifferent to what the statement might be.

Q. Did you not state yesterday that there has been no comparison of vouchers with accounts in connection with this Exhibit 94?

A. In such a statement as that I referred distinctly to a comparison of vouchers with accounts, of which I am cognizant and in which I have some portion, at least, of authority to determine.

Q. You appear here, do you not, to testify upon the retainer of the City of New York?

A. I do.

Q. And what you mean to say then, when you do state that there has been no comparison of vouchers with accounts and no examination of subsidiary books, is that you yourself have not made such comparisons and examinations, is that correct?

A. I do not mean that.

Q. Do you mean that no such comparison or examination has been made by representatives of the city or of these defendants?

2465 A. I mean that there has been no such examination as is necessary, made by representatives of the city to my knowledge, by experts in the art of gas making.

Q. Well, Mr. Cuthbert, who made the examination, is not an expert in the art of gas making, although he is an expert accountant?

A. A mere accountant may make many blunders in adding up figures. One must have a fairly good knowledge of the business in order to see that accounts are not sophisticated.

Mr. KIRBY: I think this is entirely misleading. Mr. Cuthbert has

made no such examination and the inference of Mr. Mathewson's questions is that he has. They examined what they were permitted to.

Q. Now, do you know of the firm of accountants which made the examination at Chicago?

A. I have heard of them.

Q. They did not have any knowledge of the gas business particularly, did they, so far as you know?

A. I don't know. The first I ever heard of them was within a few days.

Q. And your view would be, if they were not familiar with the gas business and acquainted with that, that their examination would be of little value, would it?

A. Unless directed by some one familiar with the gas business.

Mr. BURR: Will you permit me on that subject to ask the Doctor a question?

Mr. MATHEWSON: Well, had you not better wait until I get through, Mr. Burr? If it is important that you ask him right here, I will allow you, but I would prefer to finish my examination first, but go ahead.

2466 By Mr. BURR:

Q. Since the adjournment of September 14 did you have any interview with any of the officers of the Consolidated Gas Company for the purpose of procuring an examination such as you thought would be necessary?

A. At the secretary's request, over the telephone, and in response to a request on my part here, to have an opportunity to examine the accounts or at least a few of the accounts of the Consolidated Gas Company, I visited No. 4 Irving Place, the principal office of the Consolidated Gas Company, and had an interview with the secretary, stating to him——

Q. Mr. Carter, do you mean?

A. Mr. Carter. Stating to him what I deemed to be necessary for the purpose of facilitating my work in examining the cost of gas and the cost of the manufacturing plant.

Q. What was the date, September 20?

A. If I remember rightly, it was about September 20.

Q. And as a result of that interview what happened?

A. Mr. Carter promised to write me a letter after consultation with his fellow officers the following morning, and I was about that time called upon on the telephone and told that it would be impossible to grant me access to one account, the real estate, which I had asked; that I was at liberty to examine and compare the ledger which had been put in evidence, and that I should have no opportunity to visit and examine the work, even in a cursory way.

Q. What action, if any, did you take upon receiving that information from Mr. Carter?

A. I at once placed the whole matter before the assistant corporation counsel, and with his approval wrote a letter to Mr. Carter covering the situation.

2467 Q. (Handing paper). Is that a copy of the letter?
A. That is.
Q. Will you read it?

Mr. MATHEWSON: I object.

Mr. BURR: You brought this out yourself now. You asked him what facilities he had and I am going to show just what he had and what facilities were denied him.

Mr. MATHEWSON: No, I have not asked as to that. I am asking him as to his statement that no examination of the books had been made, made so broadly that nobody could understand but the one thing, that no examination had been made. Now, he says that he has not made any.

Mr. BURR: I will show this to the Master and let him understand the situation. That is a copy of the letter Mr. Marks sent to Mr. Carter as the result of that refusal to give him the information which he asked. Now, if Mr. Mathewson had not referred to those things I would not have brought that out.

Mr. MATHEWSON: The witness himself brought up the whole subject.

The MASTER: I do not see that it is particularly important. It is subsequent to the day of adjournment and subsequent to the complainant's resting their case. However, I will let it go in if you think it is important.

Mr. BURR: Well, I do. I will ask the witness to read it.

Mr. MATHEWSON: Exception.

The WITNESS (reading):

2468 "OFFICE OF THE CORPORATION COUNSEL OF THE CITY OF NEW YORK, *September* 20, 1906.

Mr. Robert A. Corter, Sec'y, Consolidated Gas Company, 4 Irving Place, N. Y. City.

MY DEAR SIR: Referring to our verbal interview of yesterday, I would say that I had hoped to have a letter from you (as per your promise) this morning, giving your replies to my requests for definite information on the following points:

First: An exact transcript of the Real Estate account of your general ledgers, together with transcripts of the entries from the journal and cash books, which are posted in the Real Estate account of the general ledger, and with permission to examine these accounts and vouchers.

Second: A statement as to the facilities which you could afford me, and a requisite number of assistants in comparing the vouchers and subsidiary books and payrolls, with the entries upon your operating ledgers.

Third: A reply to my request for an opportunity to make a general inspection of the stations and works of the Consolidated Gas Company, with access to the drawings and maps and records, for the purpose of facilitating this inspection, and enabling me, with my assistants, to make a sufficiently accurate inventory and valuation of the existing plants and distributing system, to be satisfactory to the Corporation Counsel.

Referring to your telephone message of this afternoon at 4.30, I understand your verbal reply to be.

First. A refusal of access to or a transcript from the Real
2469 Estate account of your general ledger and other books.

Second. A verbal statement that you will furnish me with all the facilities required for the examination of your operating ledgers in evidence, and a comparison of the vouchers and subsidiary books and payrolls.

Third. You advise me that it will be impossible to permit me to make a visit of inspection, and an inventory of the stations and works of the Consolidated Gas Company, and finally that you prefer not writing any letter at all, but merely acceding to my second request verbally.

It is apparent from this to me, that it is quite impossible to make a complete and satisfactory investigation of the cost of gas, and of the cost of gas works, and that at no time have the various investigators been afforded an opportunity, in a complete and thorough manner, to learn what is imperatively required to make a report worthy of consideration, as accurate and exhaustive.

In view of this situation, which I have communicated to Assistant Corporation Counsel Burr, it is quite apparent that the motion for an investigation of the company's books and vouchers, and an inspection of its plant, must be proceeded with as originally mapped out by the Corporation Counsel.

Yours truly,

(Signed) WILLIAM D. MARKS."

By Mr. MATHEWSON:

Q. I had not proposed to go further than to call attention to your statements and ask you how you confirm them with the facts
2470 as they were, but this compels me to ask a few more questions. You state in this letter that "at no time have the various investigators been afforded an opportunity, in a complete and thorough manner, to learn what is imperatively required to make a report worthy of consideration, as accurate and exhaustive." Do you mean that the report of the Stevens Committee was not worthy of consideration?

A. I have not in that any reference to anything more than the various parties who have been concerned with myself in this matter.

Q. But you say that at no time have the various investigators been afforded an opportunity, &c. To whom do you refer by the various investigators?

A. There were a number of men, Prof. Bemis is one of them; there were two or three experts who are no longer in the City's employ.

Q. Who are they, what are their names?

A. There was Mr. Witherby——

Mr. BURR: Well, is that material?

The WITNESS: I think not.

Mr. MATHEWSON: I think it is pretty material, if he has put such statements as these on the record.

The WITNESS: Mr. Beedle, both of whom——

Q. I simply asked you their names. Answer my question if you will.

A. Both of whom were at no time afforded an opportunity to go through the works.

Q. When and from whom did they request such an opportunity and on what occasion?

A. I don't know all the details of this transaction.

Q. Well you seem to state them in your letter with great emphasis, as though you knew all about it, Professor. I am
2471 trying to get at if you know what you are talking about?

A. I am speaking of my own knowledge entirely.

Q. When you state that "at no time have the various investigators been afforded an opportunity," &c., "to learn what is imperatively required to make a report worthy of consideration," did you intend to include in the investigators the Stevens Committee?

A. I told you I did not.

Q. Did you intend to include therein the Gas Commission?

A. I told you that so far as that letter was concerned that I referred to those associated with me.

Q. Then I do not understand you to mean that either the Stevens Committee or the Gas Commission were not given an opportunity to make such investigation as they proposed, is that right?

A. I made no reference to them in any way or form.

Q. Have you conferred with Mr. Cuthbert, the accountant for the State, or Mr. Hayward, the accountant for the city, as to the facts that they found upon their examination in this proceeding, of the books of the Consolidated Gas Company?

A. Mr. Cuthbert I have never met. Mr. Hayward I have met and have heard him speak with regard to——

Q. Did you make any request or suggestion that you go with Mr. Hayward when he made his examination or when the books were thrown open to the examination of the defendants' representatives a few weeks ago?

A. I don't know that I specifically asked to go with Mr. Hayward. I have asked at all times, in season and out of season, to be given an equal opportunity with others to see the works and see the books.

Q. Did you make any request or suggestion that you go with Mr. Hayward or at that time while the experts were examining
2472 the books in order to satisfy yourself?

A. Of whom do you mean should I make the request?

Q. The counsel for the city?

A. I don't recall that I did at that time.

Q. Did you make any request of any officer of the Consolidated Gas Company at that time that you be permitted to go with Mr. Hayward and join him in any examination of the books which he desired to make?

A. I have made but two requests of the officers of the Consolidated

Gas Company; one for access to the works, to the Vice-President and the other to the Secretary for access to the books.

Q. And this request to the Secretary was after the Complainants had closed their case and all their evidence was in and after the examination by Mr. Hayward had been completed, was it not?

Mr. BURR: By Mr. Hayward?

Mr. MATHEWSON: Yes.

Mr. BURR: Mr. Hayward never completed that examination and was never afforded an opportunity to make such an investigation as he desired.

Mr. MATHEWSON: You have made the statement, and I state emphatically, he was given the opportunity to make any investigation he desired, and see any vouchers he desired, as was Mr. Cuthbert, and if he did not, it was his own fault.

Mr. BURR: You gave us the shadow of an investigation while holding back the substance.

Mr. MATHEWSON: You stated here before the Master repeatedly, that you would wait until you saw what the state expert got, and that if that was not sufficient, Mr. Hayward could ask for anything more that he desired, and he was asked for nothing
2473 & 2474 more. It is getting a little tiresome, this assuming that we have not given you an opportunity.

(At 4.40 P. M. an adjournment was taken to 11 o'clock to-morrow morning, October 4th, 1906.)

Last Exhibits:

Complainant's Exhibit 255,
State's Exhibit W,
City's Exhibit 54.

2475 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, THURSDAY, *October* 4, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Kirby.

2476 WILLIAM D. MARKS resumes the stand.

Cross-examination continued by Mr. MATHEWSON:

Q. Having computed the profits of the Consolidated Gas Company for the year 1907 on the basis of eighty-cent gas, you proceeded to

state on page 2335 of the testimony that this would give the company a profit on the investment in plant as you assumed it, of from ten per cent. to thirteen per cent. What valuation of plant did you use as a divisor to procure that result?

A. At the time that I made that reply I was in great pain from my eyes and I was not as full in my answer as I should have been. It appears probable that with the price of gas fixed at seventy-five cents to the city and at eighty cents to the consumer, that the profit of operation for the year 1907 would be about five million dollars, more or less on an actual structural cost of something less than thirty million dollars. Or, taking figures from complainant's Exhibit 81, investment in the gas business, October 31, 1905, an apparent constructural cost of $40,500,454.99, which has been claimed, or again $49,110,454.99, investments of a tangible nature claimed as required in the gas business, showing a percentage ranging all the way above seventeen in the first case to about ten in the last case.

Q. And in neither case did you in your division and the four million dollars or such a matter which you said yesterday would be required to add the additional plant to produce and distribute this additional two billion feet per annum, did you?

A. From the figures——

Q. Cannot you answer directly?

A. Hardly as a technical question. It is not a technical question.

Q. I merely ask you whether you did add that four million
2477 dollars or thereabouts which you said would be required to produce the two billion feet per annum.

A. Agreeing, then, with the request to be brief, that four million dollars was in there. I can explain how it was in there if you wish.

Q. Well, it was not in there if you took the forty million as the company has stated in the one case, or the forty-nine million as it stated in the other; was it?

A. I refer you to my figure of about thirty million dollars.

Q. Was it included in the forty million dollars which you say were the company's figures?

A. The company's figures were taken, as all other figures are taken by me, as being doubtful and for that reason not used as a basis.

Q. But you say you did use the forty million dollars as a basis to compute one of these per cents. Now I ask you whether that forty millions included the additional value of plant that would be required to produce the additional two billion feet.

A. It did not, because I did not think——

Q. I merely asked you whether it did. Won't you give direct answers? If not, I shall have to request the Master to instruct you to do so. Now in computing your apparent profit of about five million dollars in 1907, you take operating expenses at about $8,208,000, if I read you testimony correctly on page 2334; is that right?

A. Page 2334, apparent operating expenses, $8,208,505.

Q. But on page 2333 you state operating expenses for 1905 in the production of thirteen billion feet of gas on that valuation to be $8,786,000, or more than $500,000 more than you allowed for 1907, with two billion feet additional for the latter year; how is that?

A. On page 2333 I took the figures of results of Messrs. Addick and Humphreys; not my own.

2478 Q. And in this $8,208,505 it is not based upon the testimony of the company's officials here, but upon your own deductions; is that right?

A. The $8,208,505 on page 2334 is obtained by multiplying 15,342,981,000 cubic feet of gas by the apparent cost deduced by myself from the company's data of fifty-three and a half cents.

Q. Eliminating these various items of taxes and one thing and another which you stated you did not eliminate in your previous testimony?

A. Very carefully stated in figures.

Q. So that if those deductions were not justifiable the amount of the operating expenses would be very much in excess of $8,208,000 in 1907, would they not?

A. They would appear to be.

Q. Well, not making those deductions, they were something like $8,786.000 in 1905, weren't they, when only thirteen billion feet or something over of gas was distributed?

A. What page?

Q. Page 2332. In fact, they appear to be stated by you as from the complainant's Exhibit, $8,964,486.98, at the bottom of page 2332?

A. Yes. In complainant's Exhibit 96 for 1905.

Q. You haven't any doubt, have you, upon that basis, the operating expenses in the production of fifteen billion and more feet of gas in 1907 would be very substantially more than the operating expenses upon the same basis for 1905?

A. As a mathematical computation, yes.

Q. So that in that event there would be a very substantial addition to the operating expenses to be deducted from the revenue as computed by you in 1907 and a corresponding reduction in the balance of profit?

A. As a theoretical, mathematical computation, yes.

Q. Now, if I understand you correctly, your theory of the increase of sales due to the reduction of price involves par-

2479 ticularly the period from about May, 1899, to about May, 1900, when you testified the price of gas in the gas war was reduced to about sixty-five cents, and you attributed the increase at that time to the fact of the reduction, did you not?

A. Not to sixty-five cents, but to eighty-two cents average.

Q. But the eighty-two cents average included, did it not, the full dollar rate during a considerable part of the year 1899 and the full dollar rate after the gas war was over, in 1900, from May on?

A. It did.

Q. Therefore, there could not be any increase in the sales due to a reduction while that dollar rate was still in existence, and the increase, if it was due at all to the reduction, must have taken place between May, 1899, and May, 1900, and been due to the rate at which gas was then selling, which was sixty-five cents, you stated, isn't that so?

A. I did not so state.

Q. Didn't you state the gas sold at sixty-five cents?
A. I stated the gas sold at sixty-five cents.
Q. During the gas war?
A. During the gas war.
Q. Well, now, let us take the rate of sixty-five cents. The statutory rate at that ime, I should have said, Professor, as stated by you, was $1.15, and not $1.00.
A. At the beginning; if I can find the chart I can find those details.
Q. Was it $1.15 in 1899?
A. From the chart it appears that in 1899 the average price obtained——
Q. (Interrupting.) I didn't ask you that——
A. (Interrupting.) Was eighty-five cents——
Q. I didn't ask you that. I asked you whether the legal rate for gas as permitted by statute was not $1.15 in 1899?
A. On that point I am not informed.
Q. How did you get your thirty-three cents which you
2480 said was the difference between the average rate for that year, 1899, and some other hypothetical or exact rate?
A. Referring to the price of gas for 1898, it has been deduced as averaging $1.15. Referring to the price of gas for 1900, it has been deduced as eighty-two cents. The difference between these two is thirty-three cents.
Q. Now, if the increase in the sales of gas were due to a reduction of price, and the price while it existed was sixty-five cents, that would mean a difference not of thirty-three, but of how much below $1.15?
A. Well, sixty-five cents and $1.15 would be fifty cents.
Q. Now, if you applied fifty cents to the increase in sales which you have testified to and which you use as the main item in getting your 46.46 feet per capita, what would be the result?
A. May I explain to you, Mr. Mathewson, that I have canvassed that question of the divisor in this case very carefully, in which——
Q. I know you have, and so have I——
A. And the thought occurred to me at the time after investigation that this fifty cents would not be a proper divisor for the purpose of drawing an inference as to the two years extending from the year 1905 to the end of the year 1907. To explain, the reasons for that is this:
During the years 1898 to 1900 two years elapsed. Of those two years, six months of which the price was very much reduced, fifty cents. Now, during the remainder of each of those two years, the price remained in the one case at $1.15 and in the other case at $1. In the existing case where I have endeavored to make some inference, the price has been held as thoroughly as it could be since 1905 at $1. The consequence is that but a trifle over a year still remains
2481 before reduced to eighty cents. That was the cause of my limitation to any question of prediction of two years. You have, then, two analogous periods, the period between 1898 and 1900, of which one-half was at a reduced price and the period between 1905 and 1907, at which it was possible that about one-half

might be at a reduced price, and that caused my rejection of the fifty cents, which would naturally occur at first to anyone taking up such a problem as this.

Q. Well, we may wish to apply your theory to a period beginning with the taking effect of this eighty-cent rate, and I consequently would like to know how much per capita the increase was in 1899 and 1900, assuming that the reduction was fifty cents—that is, from $1.15 to sixty-five cents for that period during which there was a reduction, and during which period there was inducement due to a reduction to an increase- consumption of gas? If it is 46.46 cubic feet per capita increase of consumption for each one cent reduction in price of gas, I ask you to take not thirty-three cents reduction, but fifty cents reduction, and see what the result is in that regard.

A. Will you allow me to explain how the matter which you are bringing up was very carefully canvassed by myself and my assistants?

Q. I don't think it is worth while. Really I think I understand your theory, and I merely am endeavoring to have you apply the actual reduction that was made and which induced this increased consumption of gas according to your statement instead of an average price, of which a good deal was at the regular rate and no reduction at all, and which therefore could have had no effect on the consumption of gas.

The MASTER: Answer the question directly, if you can, and if not say so. Any question of explanation, you know, Mr. Burr can bring out on redirect-examination.

2402 A. Lack of exact data as to the amount of outputs and of the populations on May 1st, 1899, and of similar exact data as to the amount of the outputs or sales of gas and of the population at that time renders it impossible to use the reduction from $1.15 to sixty-five cents.

Q. Well, will you take the population as it existed on January 1st, 1900, which is just about the middle of this year during which the sixty-five cent rate prevailed; and then take the fifty-cent reduction from $1.15 to be sixty-five cents which prevailed during that year and tell me how that would mean increase per capita for a cent of reduction?

A. As a mathematical computation for your purposes?

Q. Yes, certainly. It will take only a moment.

A. You desire to have me take the estimated population for 1898 and also the output for the sales of gas for 1898 and subtract——

Q. The increase in the sales of gas which you say was due to the reduction in price. You gave the amount in your direct testimony and stated the increase in sales of gas during those two years was so much and that it was due to a decrease in price.

A. I gave the increase in the sales of gas per capita.

Q. Yes, I mean per capita.

A. A: nine hundred and twenty-nine cubic feet? You wish that divided by fifty cents?

The WITNESS: That is about 18.6 cubic feet, one-fiftieth.

Q. Is it not the 929 cubic feet that you divided by 33 to obtain 46.46?

A. Yes.

Q. How can you divide it by 50, which is only half as much more and just less than half of 46 as your quotient?

A. I may have made a mistake.

Q. I cannot see, professor, how you divide 929 by 33 and get your original 46.46 to begin with. According to my figuring, it would be a little less than 30.

A. That was divided by 20, apparently divided in an error
2483 by 20. Will you allow me time to look at that carefully and take it up to-morrow or later on with you?

Q. Well, would it take more than a moment if you now divide it by 33 instead of 20, as you did, and just give me that result? Because I would a little prefer to put this consecutively, and then if there is any further correction, you can make it.

A. Mr. Mathewson, there has been a misprint there or a typographical error. It was not 929, it was 1533, which, divided by 33, gives you the required 46.46.

Q. Now you are sure that that is correct, are you, Professor?

A. Well, it appears to be.

Q. Where did you get the 929 which you have testified to?

A. If you multiply it by 20 you get 929.

Q. Is the 1533 which you now give the difference between the per capita consumption in two years, and if so, in what two years?

A. The per capita consumption in 1900 is given as 8,128, and the per capita consumption in 1898 is 6,595.

Q. That is on your chart?

A. On the chart, and the difference between those is 1,533. I will refigure it. It seems to be correct, with the exception that there is a typographical error or a printer's error, presumably a typographical error.

Q. Now, will you use the divisor of 50 in view of the reduction period having been sixty-five cents?

A. It seems to be about 30.6.

Q. About 30.6?

A. That is the result of dividing 1533 by 50.

Q. Now, if you apply that as a factor of increase instead of 46.46 for the year 1905 and 1906 it would show a less output of gas than you have heretofore estimated for 1907, would it not?

A. It would not show anything.

2484 Q. If you applied that factor in the same manner that you did the 46.46 it would produce a lower figure than the 15,000,000,000 and over feet which you have testified as for 1903?

A. As a mathematical calculation.

Q. Now, when you speak of the per capita consumption in 1899 on your chart as 7,363 cubic feet, do you mean for the entire year or at any particular date or an average time in that year?

A. That is an average on the year.

Q. How do you get the average of the year?

A. The estimated average population is 1,809,205, and the total gas sales appear to be 13,325,943,400 cubic feet.

Q. But you have taken the per capita consumption in 1898, and the gas war did not begin until 1899. Now, will you take the year 1899 and the year 1900 per capita consumption each year according

to your chart, those being the two years in which the gas war prevailed, and let me know what the increase is between those two years in the per capita consumption?

A. It appears to be 762 cubic feet increase per capital consumption average.

Q. About one-half of what it was if you started with 1898, to wit, your 1,533 feet?

A. It makes 1,524 cubic feet, multiplied by two.

Q. Well, it is just about one-half of 1,533 cubic feet, is it not? Now, if you divide that by 50, what would be the increase per capita shown for those two years?

A. If I divide 762 by 50?

Q. Yes.

A. If I divide 762 by 50 I obtain 15.2.

Q. Now, your estimate of the sales in 1907, and incidentally your estimate of the revenue of the company from sales in 1907, depends entirely on the accuracy or the justification for your estimate of increase per capita of 46.46 cubic feet for a reduction of one cent in the selling price of gas, doesn't it?

A. Yes, that is the basis.

2485 Q. Now, will you look at your chart, Professor, and tell us what, according to your chart, the increase was from the two years 1901 to 1903 in consumption per capita while the price of gas remained constant at $1.00?

A. The consumption per capita for 1903 appears to be 9,328. The consumption per capita for 1901 appears to be 8,135, and the increase appears to be 1,193 cubic feet.

Q. Pretty nearly 1,200 cubic feet in those two years with no reduction in price.

A. Yes.

Q. Now, in your testimony on page 2313, referring to the period which Mr. Addicks selected at the suggestion of the Gas Commission, that is 1894 to 1899, to compute the expenditures for renewals you say that that was a period in which the old works were tottering to their final collapse. What is your authority for that statement?

A. Mr. Bradley's statement.

Q. Will you point out in the record where Mr. Bradley says that most of the water gas apparatus has been built within the last five years.

A. The testimony of William H. Bradley, page 2018. It does not say here what proceeding that is in. In the middle of the page:

"No, sir, most of the water gas apparatus has been built within the last five years and is just as modern and up-todate as any we could contract for to-day."

Q. Quite right. Now point out the additional rates upon which you base your testimony on page 2313 that, "according to Mr. Bradley's testimony, they did collapse about 1900 and were replaced by the latest type of water gas plants." Where does he say that they did collapse about 1900 or that they were tottering on the verge of collapse in 1900?

A. He did not say so. I said so.

2486 Q. But you say "according to Mr. Bradley's testimony they did collapse about 1900." Now, where is Mr. Bradley's testimony that they did collapse about 1900?

A. Perhaps I did not use the English language as precisely as I would had I known the point would be raised.

Mr. BURR: I call attention to the fact that on page 2313 Dr. Marks quoted the exact language of Mr. Bradley as he has read it now, and has said according to Mr. Bradley's testimony that was his inference, that it did collapse about 1900.

The MASTER: That is the point, whether it is his inference or whether it is according to Mr. Bradley's testimony.

Mr. MATHEWSON: Yes.

Mr. BURR: The presumption is they would not have been rebuilt if they had not collapsed.

Q. Did Mr. Bradley testify at any point in this record that you can point out that the apparatus of the company or any of it did collapse about 1900?

A. No; that is my own inference from his testimony regarding the rebuilding of the works.

Q. That shows the futility of making such inferences, Professor. Don't you remember Mr. Bradley testifying that what he referred to was the generating apparatus, that some of the generating apparatus in some of the plants was replaced with newer type apparatus, was not that the whole effect of Mr. Bradley's testimony as you understand it?

A. I have just quoted what he said.

Q. Have you quoted all of his testimony? I ask you if you do not remember his testimony that certain of the generating apparatus was replaced in some of the plants about that time?

A. I have a general impression that he made that state-

2487 ment, but I specifically looked up his answer and quoted it here so as to avoid any possibility of impression.

Q. Do you remember his testimony that certain of the apparatus was what was replaced and not the entire working plant, from 1900 on?

A. No, I do not, beyond what I have quoted to you.

Q. Do you think that these plants could have been tottering on the verge of collapse and still deliver gas in the quantities that it is shown that they did deliver in 1900, or up to that time, immediately before they were replaced?

A. As a very young man and engineer I had seen the inside of a good many of these old works and I know that many of them were not in very good condition.

Q. Some of the Consolidated Gas Company's works?

A. If I remember rightly it was the Manhattan at the time.

Q. How long ago was that?

A. Oh, that was 30 years ago, 25 or 30 years ago.

Q. That was a coal gas plant, wasn't it?

A. Yes, at that time.

Q. And that coal gas plant at 18th Street has been taken by the

City and was operating up to the time it was taken, efficiently. You have heard testimony to that effect?

A. I have heard it, yes.

Q. And the other one was 14th Street and it is still operating. You understand that, do you?

A. Yes.

Q. Do you understand that any of the manufacturing plants of the Consolidated Gas Company have been changed from coal gas to water gas since the consolidation in 1884?

A. I have had no opportunity to examine the works or to inquire into their history.

Q. Have you any information to that effect?

A. To what effect?

Q. To the effect that any of them have been changed from
2488 coal to water gas since 1884?

A. I am not familiar with the details.

Q. Did you not in making your criticisms upon the repairs and replacements which Mr. Addicks took for the period of 1894 to 1899, inclusive, refer to or have in mind a change from coal gas to water gas plants in your suggestion that the repairs thereafter should be less?

A. I cannot locate Mr. Bradley's testimony. I have an impression on my mind, however, that he did state, and I think if I had time I could find it, that since 1884 there had been a great many alterations in the works, and I am not at all sure that he did not add in the direction of increasing the water gas output rather than the coal gas. I think that was the general impression.

Q. But you do not understand that he decreased the coal gas output at all, do you, since 1884?

A. No, I didn't go that far into it.

Q. Now, as a matter of fact, don't you remember his testifying that some of these water gas apparatuses were not substituted until 1903 and 1904 instead of 1900?

A. Mr. Mathewson this is simply a test of my memory of what Mr. Bradley said——

Q. Yes.

A. If you will kindly indicate to me these points—it has no bearing on the technical evidence which I am supposed to give here.

Q. I rather think it has Professor. I think it is a test both of your memory and of the accuracy of your statements and the basis upon which you criticise the taking of the period for renewals and repairs.

Mr. BURR: Would it not be better and would we not proceed a little more speedily if you called his attention to some specific testimony?

Mr. MATHEWSON: I do not think so. I have asked the witness if
he does not recall Mr. Bradley's testimony that some of the
2489 water gas apparatus was installed in 1903 and 1904 instead of 1900 as the witness himself has stated in his direct testimony.

The WITNESS: I do not recall making a statement such as you

have made. If you will kindly refer me to the point in my own evidence——

Q. I refer to your own evidence "According to Mr. Bradley's testimony they did collapse in 1900 and were replaced by the latest type of water gas plant."

A. Referring to what page?

Q. The same testimony that I quoted your statement that according to Mr. Bradley they did collapse in 1900 and were replaced by the latest type of water gas plant.

A. Page 2313?

Q. It would follow, then, that if they collapsed about 1900 and were not replaced until 1903 and 1904 that the company was without an operating plant during that period to that extent?

A. I said about 1900.

Q. Now, if the water gas apparatus which was installed from 1900 to 1905 was in substitution for other water gas apparatus, repairs would still continue, would they not, at substantially the same rate in the future?

A. Not necessarily.

Q. Unless the new apparatus became worn, and, indeed, at the outset repairs would be required from time to time, would they not?

A. Repairs are always required upon all machinery.

Q. And are the repairs and replacements greater in a coal gas plant than in a water gas plant?

A. That is so general a question it cannot be answered. A specific coal gas plant or a specific water gas plant might be compared, but you cannot generalize.

Q. Well, take water gas plants and coal gas plants in the City of New York operated by the same officials and with the same efficiency and care, is it not a fact that a coal gas plant, as a rule,
2490 requires a greater expenditure in repairs than a water gas plant?

A. I have had no opportunity to examine the New York gas plants and therefore cannot answer your question.

Q. Take it in the same locality and under similar conditions, is not that true?

A. No answer can be made in the way of generalization.

Q. Do you mean that you don't know or that it is not possible to state generally that a coal gas plant, as a rule and in similar circumstances, requires more repairs than a water gas plant?

A. I know that it has been very frequently stated by gentlemen who have given evidence here that such is the case.

Q. Have you any doubt of it?

A. Yes.

Q. Then you don't know whether when the Astoria plant is in operation this fall, being a coal gas plant, and when the output of the company shows a larger proportion of coal gas than it has for some time in the past, a greater amount of repairs would naturally be required or not, do you?

A. Using the word "know" in its proper sense, I do not.

Q. Have you any opinion on the subject?

A. I have.

Mr. BURR: There is the testimony of Mr. Bradley in regard to the change (handing book to the witness).

Q. Do you think that the coal gas plant would require more repairs than a water gas plant of the same capacity?

A. Recalling instances that come to my knowledge, I have knowledge where coal gas plants have required more repairs, more costly repairs, than the water gas plants. I don't know whether the reverse may or may not have occurred in other cases.

Q. Now referring to your testimony at page 2308, where you refer to the repairs and renewals, you were asked this question and made this answer:

2491 "Q. What do you deduce from those statements? A. First, that taking an average of repairs from a number of coal gas plants between the years 1884 and 1900, in connection with the repairs to the modern water gas plants from 1900 to 1906, is a very adroit method of padding the apparent cost of gas by using the higher repairs of old-fashioned smaller gas plants for the new and larger water gas plants."

Don't you know that the same coal gas plants are in operation and have been all the time since 1884 to date?

A. Do you mean in the Consolidated Gas Company?

Q. Yes, and that none of the coal gas plants have been substituted with water gas plants?

A. I have been denied all information on that point.

Q. Then what is your basis for the statement to which I have just called your attention on page 2308?

A. Very easily stated. It is a matter of age and old-fashioned works against new and much perfected works.

Q. And repairs, so far as the coal gas plants are concerned, would remain substantially uniform, would they not, having relation to their capacity?

A. In what case do you refer?

Q. I refer to the case of the coal gas plants of the Consolidated Gas Company. Assuming them to have been cared for equally well during the entire period?

A. Without an examination, my opinion on that subject would be of no value.

Q. Then, taking the water gas plants, assuming that there was in existence efficient machinery producing up to the year 1900, and later, water gas in the quantities which are shown in the evidence, would the substitution of other water gas apparatus for the purpose, as Mr. Bradley testified, of being able to use cheaper oil, reduce very largely the amount that would be required for repairs
2492 in time to make on the water gas plants?

A. On page 2025 of the testimony, Mr. Bradley makes this statement:

"Q. Since 1904 what improvements have you made in the water gas plants that would enable you to reduce the cost of production?

A. Changed the entire method of production both at 21st Street and 44th Street and 99th Street.

Q. Was that not done prior to your testifying before the Stevens Committee? A. Part of it was."

Q. That doesn't answer my question as to whether repairs, and in general similar repairs, would not be needed upon water gas apparatus of the class which he describes as was required upon water gas apparatus theretofore, assuming that the previous apparatus was working efficiently?

A. It is obvious that repairs are always needed on all manufacturing apparatus used in the gas making business. As to the amount required, it is necessary to make a careful investigation either in person or by those in whose skill you have confidence.

Q. And is it not true that where you substitute machinery for hand labor, for instance, so far as possible in apparatus, that you increase the amount required for repairs, because you have more machinery, but at the same time you reduce the amount required for payroll?

A. That is the object of introducing the machinery.

Q. Now, in reference to Dr. Humphreys' testimony, you have referred to him as "blindly accepting the statements of the company." Did you hear his testimony that he himself tested the accounts of the company and examined items and found that the division between replacements on the one hand and new business on
2493 the other had been very carefully made?

A. I have a general impression that he made such a statement, but I also recall the fact that he stated he had not examined the vouchers or the accounts of the company as to the cost of gas.

Q. But you do recall the statement to which I have called your attention, don't you?

A. I have a general— If you can refer me to it.

Q. I asked you whether you recollected it?

A. I beg your pardon?

Q. I asked you whether you recollected it?

A. I do not specifically recollect the exact language. That was the impression, I think, that he gave.

Q. Let us take up the question of the use of oil. You have presented here a chart purporting to show the average illuminating power shown by the city's tests for the gas of this company for the calendar year 1905, and you show about 24 candles average for the last six months. Have you a record showing the specific examinations upon which your average was made up?

A. That is in the possession of Chief Engineer Charles F. Lacombe, chief of light and power, and was by him furnished to my assistants who made up this statement from the affidavits given day by day or at regular intervals by Chief Gas Examiner E. G. Love.

Q. Did you examine those detailed tests yourself or a record of the tests, individual tests?

A. I did, quite a number of them and explained the method.

Q. Did you not find that at some times even with this average

candle power, that the candle power recorded at some point in the city tests would fall in the main to 22 candles or very close to it?

A. I noticed occasional irregularities in the gas, which occur.

Q. Did you not find that the test showed a candle power in some cases of 22 candles or a very small fraction over it?

A. Yes, I think so; I think it is shown there.

2494 Q. Did you find any test in which in spite of this average, the candle power actually fell a trifle under 22 candles?

A. Will you k-ndly let me look at the tabulation, if you please.

(Paper handed witness.)

The WITNESS: You are referring to the last six months of 1905?

Q. Yes.

A. No, I do not in the last six months of 1905.

Q. You did not find any individual case, any average for a month, where the tests of Prof. Love showed little, if any, over 22 candles?

A. There were a few cases which I have already stated. I can get the affidavits from Dr. Love and look the whole matter up if you wish.

Mr. BURR: We shall produce Dr. Love.

Q. You answer so many more questions than I ask that it takes a good deal of time. I am merely asking you whether with this average it is not the fact that in many cases tests by Prof. Love showed that the candle power in the mains had fallen to very close to 22 candles in individual instances?

A. In relatively very few cases has that occurred.

Q. In any case did you find that they fell below 22 candles?

A. If I did, it was very small. There was a very large number of observations there which we had to go through, and it was inconsiderable.

Q. And you understand that there is a thousand dollars penalty fixed by the statute for each time that the candle power in any one of our five stations on any day is found to fall below 22 candles.

Mr. BURR: Objected to as immaterial and irrelevant.

The MASTER: I will allow it.

Mr. BURR: Exception.

2495 A. I have heard it so stated.

Q. Do you know any other city in which so great a penalty as $1,000 for failure to keep up the candle power is fixed for each daily inspection?

A. I do not.

Q. Do you know of any reason why Chief Engineer Bradley should use more oil than he considered necessary to keep the candle power up?

A. I don't know what his instructions are.

Q. No reason occurs to you, does it, Professor, why he should use more oil and the company should spend more money than is necessary to produce their gas?

A. I say I do not know what his instructions are. Anything I might say would be a mere guess.

Q. Do you mean to say without experience in the operation of a gas plant in New York City or in any other metropolitan community in the East that it is possible to maintain an average candle power of only 22½ candles monthly record and at the same time at all times keep the candle power on test by the city a mile from the works above 22 candles?

A. There are certain periods of——

Q. I asked you a direct question. Will you not give me a direct answer for once.

A. Yes.

Q. That is your view, in spite of the testimony of Mr. Bradley or Dr. Humphreys or any one else who has had experience in operating plants constantly?

A. It is.

Q. Have you ever used in your experience the quality of oil which this company uses and requires, 34 standard?

A. Beaumé?

Q. Yes.

A. I have used a good — of oil, I don't know that it was 34 Beaumé.

Q. You have also referred to the price which the company pays for its oil, and you have cited various other gas companies in the State of New York, which you say you took from Brown's
2496 Directory, and have said that the average which they pay for oil is 3.55 cents. Why didn't you take all the municipalities in the State of New York which are producing gas, instead of omitting twelve which appear in Brown's Directory in selecting those which you did take?

A. It is well known in business that anything purchased in wholesale quantities and in gross is expected at a considerably lower price than anything which is purchased in very or relatively small quantities. I picked out fourteen instances in which this obvious violation of well-known precedents had occurred and in which the companies were small relatively as nothing and yet appeared from Brown's Directory to be obtaining their oil at a less price.

Q. If there is but one producer who produces the amount of oil and with the certainty and reliability which this company requires you think they could get their oil cheaper than a company which produces so little oil that it could get it in a half dozen different directions?

A. Certainly if that company gave them a square deal.

Q. It is not a question of a square deal. When one has a product which he desires to sell and a purchaser of that product must deal with that seller alone is not he put at a disadvantage as compared with another man who requires so little of the product that he can get it from many different dealers and reliable dealers? Now I ask you to give me a direct answer to that question.

A. Without a careful investigation taking the quantities into consideration I should say that anybody that paid more than the lowest market price that they could learn was doing very bad business

indeed and as for the theoretical condition which you have stated, that remains to be shown whether it does or does not exist.

Q. It has been testified to exist. Assuming, now, that it
2497 does exist, will you answer my question, or have you given the best answer you can?

Mr. BURR: Well it is claimed here that the Consolidated Gas Company is at the mercy of the one company that supplies it with oil, the Standard Oil Company.

Mr. MATHEWSON: I shall not characterize it. I call your attention to the testimony, that the Standard Oil Company is the only company that produces the quantity of oil desired by the Consolidated Gas Company, so that it is able to furnish it. We are in that unfortunate position, if you please to put it so.

The WITNESS: That is about the best answer that I can give you.

Q. So that if a company is confined to a single producer, no other producer is able to fulfill its demands, you think they would be still in a better position than a smaller company which required but a small amount and who get that amount from half a dozen other dealers?

A. If fairly treated, yes.

Q. Now, have you read Mr. Addick's affidavit in rebuttal, and did you note his statement that while the municipalities which you chose showed an average of 3.65 cents for oil in the State of New York, those which you had omitted, to wit, Cooperstown, Fort Plain, Grandville, Huntington, Patchogue, Fort Henry, Port Jervis, Sag Harbor, Saratoga, Suffern, Warsaw and Watertown, showed an average price of oil to be 4.12 cents up to 7 cents a gallon or an average of 5.035 cents per gallon?

A. I have.

Q. And have you read his further statement that the average price of oil for all the twenty-six companies, including those you did take and those you did not, was 4.25 as against 4.08 paid by the
2498 Consolidated Gas Company during the same period?

A. I have.

Q. Have you any doubt of the accuracy of that statement, or have you checked it?

A. I have not checked it.

Q. Do you know whether that statement is correct or not?

A. I see no reason to doubt the general accuracy of that statement.

Q. If that statement is correct, then the price paid by the Consolidated Gas Company for oil within that period, 4.08 cents, was considerably less than the average price paid by all the other companies in the State of New York, of 4.25 cents, is not that true?

A. That is true.

Q. Now you have testified that a reserve or insurance fund which is allowed in England and which you have said should be allowed in this country, in your book, should not be allowed to the Consolidated Gas Company for the reason that it has spent its surplus in acquiring control of other companies and establishing a monopoly. That is page 2323 of your testimony. I would like to have you point out any

testimony where it appears that the surplus of the Consolidated Gas Company has been invested in the securities of other companies.

A. State's Exhibit B, page 382A, statement of securities and obligations of other companies acquired, par value.

Q. Oh, yes, that is quite right, we have acquired securities of that par value, but point out to me where there is any testimony that our surplus fund has been invested in those securities. Don't you recall the testimony that the securities of the Consolidated Gas Company in the shape of stock were issued for the purpose of acquiring securities of these other companies?

A. I recall such a statement.

Q. Now, will you point out any statement or any evidence
2499 here upon which you base your statement that the surplus of the Consolidated Gas Company, earned in its gas business, was invested in acquiring the securities of other companies, for a monopoly or for any other purpose?

A. The word "surplus" was used as indicating the investment of funds not actually required for the operation of their proper gas business.

Q. What funds, funds that they acquired by the issue of new securities for the purpose of purchasing securities of other companies? Do you refer to that as a surplus?

A. I refer more particularly to the apparent value of this exhibit of $100,877,059.56; to the book value of $53,041,134.52, and to a statement of the return on the investment amounting to $1,018,712.28; in addition to which the Astoria Company is charged with $7,135,000 and the National Coal & Coke Company included, and a book value is given of the purchases of the securities as $7,060,000, making a total of all companies of $108,012,059.56 apparent par value and a book charge of $60,101,134.52.

Q. Now, Doctor, let me recall your mind to what we were considering. You have said that a surplus or reserve fund is ordinarily allowed to be accumulated by a gas company in its gas business. You then go on to say in substance that in the case of the Consolidated Gas Company that should not be allowed now on the cost of gas. And you were asked this question, at page 2322:

"Q. Now, Doctor, what have you to say in regard to the item charged here on Exhibit 94 for insurance of reserve funds? Is that a proper charge, or are these proper subjects for special allowance if required or demanded by a company which has confessedly, as in
2500 the case of the Consolidated Gas Company, made for a long term of years the profits that the Consolidated Gas Company has? A. It is obvious that the surplus applicable to both these funds would have been more than ample, had not the Consolidated Gas Company gone out of its province as a gas manufacturer in the endeavor to obtain the monopoly of all forms of lighting in the Island of Manhattan and Greater New York."

And a little later:

"Q. What is the answer? A. It is not under existing conditions.

"Q. Why. A. Because the Consolidated Gas Company appear to have spent their surplus in an endeavor to obtain control of all forms of lighting on the Island of Manhattan."

Now, did you not refer in that answer and did you not understand the question to refer to the surplus which the company was making in the operation of its gas business?

A. I referred to the vast sums——

Q. Can you not give me an answer to that question?

A. I did not.

Q. Then what earthly pertinence did it have to the subject under consideration, which was whether there should be an allowance of five cents per thousand feet or something else on account of a reserve fund for the Consolidated Gas Company in connection with its gas business?

A. I had the knowledge at the time that these sums were in possession and control yielding something over a million dollars, according to their own statement, to the Consolidated Gas Company, outside securities, and the statement was of a value approximating $100,000,000. Why should a company want to go on piling
2501 up a surplus which had such vast profitable resources back of it?

Q. Yes, and did you figure out that the amount that the company received on the securities of other companies, this $1,000,000 or so, was only about two per cent. of the cost of those securities to the company? That would not represent a very large surplus, would it, when you applied — to that investment?

A. I know the real profits of gas and electric works, and particularly of electricity; I know what is being made.

Q. We are not talking about the return that the Consolidated Gas Company received from these other companies, which figure you yourself used. Now I want to know where the surplus of the Consolidated Gas Company, earned in its gas business, which we are treating with here entirely separately from its investment in securities of other companies, was invested in securities of other companies, if it was invested at all. I would like to have you point it out?

A. Taking State's Exhibit B——

Q. You certainly do not mean that the income that the Consolidated Gas Company has received from the securities of other companies is the surplus which is invested in the securities of other companies, do you?

A. Will you repeat the question.

(Question repeated by stenographer.)

Q. You do not refer to that when you say surplus invested in the securities of other companies, do you?

A. I do not understand the first question clearly. May I ask to have it in a somewhat different shape?

Mr. BURR: Will the stenographer read it?

(Question read by stenographer.)

The WITNESS: Is the income which is received from the
2502 surplus invested in other companies, is the surplus which is invested in other companies?

Mr. BURR: That is about it.

Q. No, it is quite clear, if you will refer to your previous testimony. You have referred to a million dollars which you say was received by the Consolidated Gas Company from its investments in securities of other companies, received from those companies by way of dividend, and I am asking whether you referred to that fund when you spoke of the surplus of the Consolidated Gas Company, which was invested in the securities of other companies?

A. Will you mention the sum, if you please? Is it the $1,018,712.28?

Q. I refer to the sum of about that amount which you yourself introduced a few moments ago.

A. I referred to that sum as being available for the needs of the Consolidated Gas Company, but I meant from my own personal knowledge of the profits of electric lighting and gas, a much larger sum, which is very carefully hidden by some method, which is earned by these various companies on their securities.

By Mr. BURR:

Q. By the various electric light companies?

A. By the various electric light companies.

By Mr. MATHEWSON:

Q. Well, then that is not the profits of the Consolidated Gas Company covering a long term of years which is invested in the securities of other companies and to which you referred when you made that kind of a statement, is it?

2503 A. It is impossible to answer questions without access to the books.

Q. I am trying to find out what you mean and what you referred to in your testimony and nothing further. I read from page 2323 as follows:

"By the Master:

"Q. What you mean by that is that the surplus has been expended "in the purchase of securities of other companies? A. Yes, sir."

Now, what surplus did you refer to there which has been invested in the securities of other companies? Didn't you refer to the surplus which the Consolidated Gas Company had made in its gas business, because it had no other business until it invested in the securities of other companies?

A. I referred to its visible possessions, State's Exhibit B, page 382.

Q. I repeat my question. When you replied to the Master's question, "What you mean by that is that the surplus has been expended in the purchase of securities of other companies," and you answered "yes, sir," to what surplus did you refer as having been invested by the Consolidated Gas Company in the securities of other companies?

A. I referred to State's Exhibit B, page 382, given by the Consolidated Gas Company and amounting apparently to something over sixty millions.

Mr. MATHEWSON: I would like to have the Master look at this if he does not know what it is.

The MASTER: I know what it is.

Q. Don't you know that State's Exhibit B., 382A, is not a statement of surplus at all and that those securities shown there were purchased by some other funds?

A. I have not had access to the books.

2504 Q. When you state that those securities had been purchased out of the surplus, as you did in substance in reply to the Master, by the use of what surplus did you understand they were purchased?

A. By a surplus not required for the operation and the legitimate business of the Consolidated Gas Company.

Q. Then you referred to the surplus accumulated by the Consolidated Gas Company in its operations before it purchased these securities, didn't you?

A. Without access to the books I cannot answer that.

Q. What did you refer to?

A. To the visible results given in State's Exhibit B.

Mr. MATHEWSON: Mr. Master, I think the witness should answer that question.

The MASTER: You can answer that question.

Mr. MATHEWSON: Mr. Stenographer, repeat the question.

The STENOGRAPHER (reading): Q. When you said that those securities had been purchased out of the surplus, as you did in substance in reply to the Master, by the use of what surplus did you understand they were purchased? A. In using the word surplus I referred to the surplus possessions of the Consolidated Gas Company over and above what was required in its legitimate functions as a producer and vendor of gas.

Q. Did you not refer to the surplus which the company had accumulated in its gas business before it purchased these securities when you said that it used its surplus in the purchase of securities of other companies?

Mr. BURR: That is the fourth time that question has been asked and he has now given an answer showing exactly what he meant.

2505 Mr. MATHEWSON: And I have been unable to get an answer after asking it four times.

The MASTER: The witness stated very plainly on page 2323: "Because the Consolidated Gas Company appeared to have spent "their surplus in an endeavor to obtain control of all forms of light-"ing on the Island of Manhattan."

Now it is a fair question on cross-examination to find out on what he bases that statement. He bases, it according to his answer here now, on this State's Exhibit B, but that does not go to the point. The counsel is entitled to cross examine——

Mr. BURR: I have not the slightest objection to the fullest examination, only if he asks the question four times and the answer is given now, he should proceed to another question. But that question has been asked four times.

The MASTER: Either the witness does not understand, else he does not want to answer, else he does not know.

Mr. BURR: It is quite apparent here and on the record that the Consolidated Gas Company has acquired the New Amsterdam Company and the electric light companies.

Mr. MATHEWSON: No doubt about that. That is not in dispute.

The WITNESS: Mr. Master, I have answered that just as clear as I am able to. Will you kindly read my last reply.

Mr. MATHEWSON: Read my last question before you read his reply.

The STENOGRAPHER (reading): Did you not refer to the surplus which the company had accumulated in its gas business before it purchased these securities, when you said that it used its surplus in the purchase of securities of other companies.

2503

The WITNESS: Now will you read my answer?

The STENOGRAPHER (reading): In using the word "surplus" I referred to the surplus possessions of the Consolidated Gas Company over and above what was required in its legitimate functions as a purchaser and vendor of gas.

The WITNESS: I shall be glad to answer any further questions. I have nothing to keep back. I wish to meet it frankly and fairly.

Mr. MATHEWSON: I repeat the question and ask you to give me a direct answer.

The MASTER: Well, the witness says in effect he cannot answer it any better than he has. That seems to end it. Is that not the case, Doctor.

The WITNESS: That's it.

Q. Well, Doctor, there was a time about 1900, we will assume, when the Consolidated Gas Company owned no securities of other companies. It then proceeded to purchase the securities of other companies and you have testified that it used its surplus to acquire the securities of other companies. Now, not having been in any business except the gas business up to that time, did you not refer to the surplus that the Company had accumulated in the conduct of its gas business since 1884 down to that time when you used the term "surplus."

A. Had the company accumulated a surplus at that time?

Q. I am not on the witness stand. I am asking you to define what you mean, and I have asked a question that I think is susceptible of a fair and direct answer.

A. And my reply is that when I used the word "surplus" I referred to the visible evidence of great and extraordinary possessions outside of the gas business.

2507

Q. No, you said it used its surplus to acquire those securities and interests in other companies. Now, I am asking if the surplus to which you referred was not the surplus that it had accumulated in its gas business before it acquired the securities of other companies? I think I am entitled to a fair answer, and won't you give me that answer; yes or no?

A. I am not aware that it has accumulated or has not accumulated a surplus.

Q. Then you don't know whether it had any surplus or not to expend in securities of other companies.

A. I asked the question and received no reply.

Q. But you did not ask me the question before you testified that it invested its surplus in the securities of other companies.

A. I referred to the Exhibit, State's Exhibit B.

Q. Those are the best answers you can give, are they?

A. That's it.

Q. Now we will take the gas business of this company and forget it owns any securities of other companies, it being conceded that that is not in the issue before this Master at all. We will take the gas business of the Consolidated Gas Company. Did you not say in your book that a company was entitled to a reserve or contingent fund of about 5 per cent. on the value of its assets?

A. I did so say.

Q. And didn't you say that the Consolidated Gas Company was not entitled to that now because it had invested its surplus in the securities of other companies, and if that be true what was the pertinence of your observation if you did not refer to the surplus of the Consolidated Gas Company which was acquired in the conduct of its gas business?

A. I did not say that the Consolidated Gas Company was not entitled to a surplus. I said it was not entitled to an allowance
2508 on the cost of gas of three cents claimed by Addicks or five cents claimed by Humphreys, or ten cents claimed by everybody.

Q. And if it had not acquired these securities of other companies, would it have been entitled to that five per cent. the same as other gas companies, according to your book?

A. Certainly not. It is simply a case of after paying a proper dividend accrued upon setting aside from profits a contingent or reserve or insurance fund and also a reserve fund for lean years.

Q. But isn't the Consolidated Gas Company entitled to set aside a certain number of cents per thousand or a certain percentage upon its property for a reserve or contingent or final renewal fund if companies in general are so entitled as you state in your book?

A. What is the peculiar situation of the Consolidated Gas Company that deprives it of that right?

A. I have not stated in my book that the companies are entitled to set aside a certain number of cents on every thousand cubic feet of gas. I have not made such a statement.

Q. Haven't you made a statement in substance that they are entitled to a surplus until it amounts to a certain percentage of their capital?

A. I have stated that it is the custom in England to set aside a surplus from the clear profits amounting, if I remember all right, *of* 5 per cent. and in the case of the reserve fund amounting to about 10 per cent. of the capitalization or structural value of the works.

Q. Both 5 per cent. and 10 per cent. for those two purposes?

A. Both 5 per cent. and 10 per cent. I don't know the details. I know it is a reasonable sum.

Q. But you have drawn in the English system and the English accounting as a very desirable thing to be following in America. Now, why is not the Consolidated Gas Company entitled to
2509 set aside a like fund until its surplus fund reaches say 10 per per cent. of its capital?

A. Under proper capitalization I would ardently advocate such an arrangeemnt as to give the Consolidated Gas Company both an insurance and a reserve fund under the English system.

Q. We have nothing to do with the paper capital of these companies. We are determining the value of its assets and the amount which should be allowed for the cost of gas and we are only claiming a return upon that and its investment in the gas business. That being the case, is not the Consolidated Gas Company entitled, like the English companies, to an allowance for a reserve or contingent or final renewal fund of the same amount and up to a certain point?

A. Surely, out of the clear profits.

Q. What would that be? How much should they allow?

A. That would require very careful study any very impartial discussion on the part of all parties at interest.

Q. You do not claim then that the surplus of the Consolidated Gas Company which it now possesses and which is due to the result of the conduct of the gas business, is invested in the securities of other companies, as I understand it?

A. I really do not know.

At 1.05 P. M. a recess is taken until 2.15 P. M.

2510 Afternoon Session.

WILLIAM D. MARKS resumed the stand.

Cross-examination by Mr. MATHEWSON (continued):

The WITNESS: May I make a little further explanation in regard to the meaning of the word "surplus" as I used it in my testimony?

The MASTER: Unless Mr. Mathewson wants it I think you had better wait until Mr. Burr re-examines, unless Mr. Mathewson does not object to its being done now.

Mr. BURR: You will be given an opportunity to explain all things necessary——

The WITNESS: Well——

Mr. BURR: If there is any misunderstanding with regard to your use of the word "surplus," you might explain it now, if you think there has been a misunderstanding.

The WITNESS: Shall I go on?

The MASTER: Yes, there is no objection.

The WITNESS: In the use of the word "surplus" I may not have stated as clearly as I might have stated, that I meant surplus capital and surplus earnings both.

By Mr. MATHEWSON:

Q. You said you have been an accountant, Doctor. Is it customary in accounting to refer to moneys or property received in exchange for capital stock issued as surplus?

A. Referring to the accounts of large corporations fre-
2511 quently published you will observe that they state that their surplus is thus and so and frequently invested in stocks, bonds and other securities, frequently enumerating those stocks, bonds and other securities.

Q. I ask you whether when you issue capital stock of a corporation or issue debentures in a corporation and receive therefor cash or value, that is called surplus from an accountant's standpoint or whether it is called capital?

A. The question——

Q. Now, can not you answer yes or no.

A. The question is not distinct. It depends on the use which is made of the cash or capital to which you have referred as to whether it would be called surplus or simply remain as working capital.

Q. Is not surplus in the accountants' view or in their method of treatment the balance of assets beyond outstanding stock and securities?

A. In financial institutions such as banks which have had their stock paid in full an accountant would use the word "surplus" for all the accumulations over and above par value of their stock. For instance, it has become the custom——

Q. I do not care to have you give any illustrations. My question is a fair one and you can answer it directly, I think. I am asking you whether surplus from the standpoint of an accountant is not the balance of assets above capital and securities outstanding?

A. It is, with this qualification, that in the case of many corporations more than the par value of the stock is charged at the outset and that I have known to be carried to surplus at the very beginning.

Q. But that is assets above the par of the stock and securities outstanding, isn't it?

A. You might put it that way, yes.

Q. Well, it is the fact, isn't it, in that case?

A. Yes.

Q. Now, that you say that you include both earnings and
2512 funds derived by the companies from other sources in the term "surplus" and without discussing the accuracy of this designation will you point out to me where the surplus, so far as it is earnings of the Consolidated Gas Company, has been invested in the securities of other companies?

A. As before stated I have no access to your accounts.

Q. Then why did you state that?

A. Because my knowledge of the business, both the profits in gas and electricity——

Q. Does the fact that profits are made in gas and electricity prove that the surplus of a company which represents earnings beyond distribution to stockholders, is invested in the securities of other companies?

A. That again is a question which can only be answered in particular cases. There is no generalization possible.

Q. Are you familiar with the exhibits in this case? I think you said you had been over everything, didn't you?

A. I tried to.

Q. Will you look at Exhibit No. 80 and see if it does not appear that the surplus of this company, so far as it comes from earnings, is invested in its gas business and not in the securities of other companies that appear below, if that is a true statement.

A. (No answer.)

Q. You notice the amount invested in the securities of other companies appears to have been derived from the issue of stocks, do you not?

A. I see a statement here that the surplus is placed at $1,546,697.38, Complainant's Exhibit 80, October 31, 1905.

Q. And so far as that exhibit shows, or if that exhibit is correct, then the surplus is invested not in securities of other companies which are tabulated at the foot, but in its gas business, isn't it?

A. Wait a minute. This does not appear to be a transcript from the book of a precise nature but is a statement of assets and
2513 liabilities in a more concise form, showing an exact two millions, and an exact one million, as the result of the subtraction of two accounts, which is a very unusual and extraordinary thing in accountants' results.

Q. Whether it is new or extraordinary or not, it is testified to be correct, and if it is correct, the surplus is not invested in the securities of other companies, is it?

A. Apparently not in that case of the $1,546,697.38.

Q. Now, when you speak of English allowances of both an insurance fund and reserve fund, isn't it true that the companies are allowed to charge for gas enough to cover the standard dividend and also the operating cost of gas and also the amount properly chargeable to these two funds?

A. There is a standard rate of dividend fixed—I may be wrong in this matter—by a commission which, I think, is drawn from a Board of Trade——

Q. (Interrupting.) I do not think that is important——

A. (Interrupting.) I don't know that this Commission takes into consideration the surplus for either the insurance fund or the reserve except in a general way as providing a margin on which all business has to come and go according to the vicissitudes that occur from year to year.

Q. But the point I am asking is this: Is it not the fact that this reserve fund and insurance fund are not taken out of the standard rate of dividend allowed but a price is permitted to be charged for the gas large enough to cover the operating cost of gas, to cover the amount properly chargeable to these two funds, and an amount sufficient to pay the dividend beyond. That is a fair statement, isn't it?

A. Both of these funds are limited in their amount not to a term of years, and therefore no arrangement can be made which would in perpetuity allow a constant surplus for the purpose of creating these——

2514 Q. Of course not, and I therefore use the "amount properly applicable" to these two funds but the amount allowed

to be charged for gas is sufficient to cover the operating cost of making and distributing the gas, plus the amount properly allowable for the two funds in any year, plus an amount sufficient to pay the standard dividend of the company, isn't that so?

A. The sliding scale is attached to the standard rate of dividend and in the sliding scale, recalling roughly, every ¼ of a one per cent. dividend is added for every penny or two cents reduction in the price of gas, at least in the case of some of the companies; and the reverse is true where the price of gas is raised, the standard rate of dividend is reduced in the case of some companies; and therefore the question of the surplus necessary for the insurance fund and for the reserve fund is left largely in the hands of the managers and directors of the English companies.

Q. Precisely. So that the point is this: A company may pay more than the standard dividend if it reduces the price of gas below the rate which may be called the standard rate fixed?

A. Yes.

Q. And whatever it does within the discretion of the company it may charge for gas a sufficient amount to cover the operating cost of the gas, an amount to cover the proper sum chargeable or allowable to these funds in any year, and an amount sufficient to pay the dividends to which they are entitled under the terms of the statute?

A. If it so desires.

Q. Yes, exactly.

A. Under the sliding scale.

Q. In other words the amount of the insurance and reserve fund does not come out of the dividend which is allowed under the statute, but is in addition to it and included in the price of gas in addition to it?

A. That would be true unless the price of gas was raised
2515 and the dividend reduced for the purpose of creation of surplus funds for the insurance fund and for the reserve fund.

Q. Yes, but in the ordinary case my statement is accurate, is it not?

A. That I cannot answer.

Q. Now, in reference to the cost of plant, cost of operation and your method of deduction, I want to ask you whether this is a correct quotation from your books:

"Practical figures required. No mere theory as to the cost of the plant and of its operation is of any value. The actual figures, deduced from the cash costs of an operative plant of sufficient size to produce light and power in quantity required for a city's use, must be obtained."

A. That is written with regard to electrical stations if I remember all right, and is accurately true.

Q. And isn't it equally true of gas stations?

A. I should say it was.

Q. And throughout your work, without calling your attention to many instances, do you not recognize, or is it not based upon the right to compute 15 per cent. or thereabouts to cover dividend and

what you may call reserve or depreciation, 15 per cent. computed on the structural value of the entire plant?

A. In the case of both gas, electricity and electric railways, of which I have made a careful study I should say that in a rude way adaptable to the uses of an active manager—for such individuals the book was written—that if you take the actual cash cost of raw material and of productive labor in producing whatever is produced, whether it be 1,000 cubic feet of gas, a kilowatt of electricity or a car mile of railway, that taking 15 per cent. of the investment required for that and adding it to the cash cost already obtained
2516 should produce a safe profit covering everything outside of ordinary small repairs, the reserve, the vicissitudes of the business, and in addition to that a dividend. The difficulty most aimed at in that 15 per cent. is one very common particularly among the smaller enterprises of a quasi-public nature in the United States which almost invariably forget and overlook the necessity of a proper reserve for the future.

Q. Of course, when you speak of the operating cost of the product to which this 15 per cent. on investment is to be added, you include what may be called the general expenses of a corporation like the office expenses and the salaries and the taxes and whatever——

A. Whatever is required, yes, in cash.

Q. And I also find in a communication in this book signed by you and addressed to the committee of the City Council——

Mr. BURR: What city?

Mr. MATHEWSON: I don't know, it doesn't say.

The WITNESS: It is regarding the cost of electric light. The City Council of Fostoria, Ohio.

Q. On page 137.

"If we can obtain money at 4 per cent. on bonds or mortgages, which have no risk whatever attendant upon them, we surely ought to allow to the average business man a profit of 8 per cent."

Is that a correct quotation?

A. Those are my sentiments, yes.

Q. And as though to anticipate your view, I find on page 160 your statement that

"Fifteen per cent. annual profit on the cash investment in a 120,000 light plant costing $2,000,000 should be a liberal
2517 allowance to a monopoly as covering a fair dividend, and allowing for deterioration."

So you would not make any distinction between a monopoly and an ordinary corporation engaged in this business?

A. A fairly conducted corporation.

Q. And I find that you also state on page 170:

"The writer may be pardoned, he trusts, for saying that a corporation capitalized only to the extent of its cash investment, restricted to a fair dividend of about 8 per cent. and a reserve of 7 per cent. for large renewals and repairs, is a beneficent institution."

A. That is right.

Q. And do I quote correctly from your book on page 213, where you say

"As the population of towns increase the price of gas appears to approximate more and more closely to the one dollar per thousand, and the cash surplus, over cost of manufacturing and distributing and fixed expenses, appears to be somewhere between 25 cents and 30 cents a thousand. At $1.00 for gas the price appears to have reached a practical minimum and the profit becomes dependent upon the reduction in investment per annual one thousand produced.

It should be remembered in a general way that one dollar in the price of each long ton of coal gas means about ten cents per thousand in the cost of gas, and that one cent per gallon in the price of oil used in carbureted water gas means about five cents per one thousand in the cost of gas. These latter three factors then,
2518 should control any attempt to go below the price of one dollar per thousand feet for gas."

A. That is entirely correct, sir.

Q. And then follows your statement that,

"It must not be assumed that in every instance reduction in price will assure increased consumption per capita, as might at first appear to be the case."

A. The word instances referring to the cities of Massachusetts.

Q. You refer to the possibility that the Consolidated Gas Company might make some additional profit by distributing gas in the Boroughs of Queens and others outside of Manhattan. That would require additional plant of course to produce the gas to be so distributed and with that we are not concerned. More than that have you any information that the Consolidated Gas Company has franchises that would permit it to operate or deliver gas outside of Manhattan? You know there are gas companies over there now in operation that have franchises in that territory, do you not?

A. I know there are companies which claim to have franchises there.

Q. Have you any information that the Consolidated Gas Company has franchises there which would legally enable it to distribute it if it chose to do so?

A. I have chanced in my investigation of the Brooklyn Gas Companies upon the names of the controlling syndicates and they are identical in many instances with the controlling syndicate of the Consolidated Gas Company.

Mr. MATHEWSON: I move to strike that out.

Motion denied. Exception.

2519 Mr. BURR: I think it is fair to state on the record that there is no evidence here that the Consolidated Gas Company has any right to operate outside of the Borough of Manhattan, nor is there any evidence here that the Astoria Light Company has a franchise to operate in the Borough of Manhattan.

Mr. MATHEWSON: I don't know that there is any evidence that the Astoria Light Company intends to operate in the Borough of Manhattan.

Mr. BURR: I think that is the only reason for its existence.

Mr. MATHEWSON: No, I guess not.

Q. When you spoke of the figures in the transcripts of accounts which have been submitted being unverified, did you refer to the fact that they had not been verified by you and Mr. Willoughby only, or did you refer to a supposed fact that no opportunity had been given anybody to verify them——

A. I presume that I should state——

Q. Well, what did you mean, that is what I want to know.

A. I mean that nobody with whom I was associated or acquainted in the present matter, had to my knowledge made such an examination, or, making such, had given me the information, and that I certainly had none myself nor had I been advised by the Corporation Counsel that anything of the nature of an investigation that was adequate had been obtained.

Q. If you have been here every day as you have testified, you certainly do know that the accountants for the defendant were invited to go to the office of the company and verify certain statements, do you not?

A. Referring to whom, may I ask?

Q. Oh, referring to Mr. Cuthbert or Mr. Heyward, if you
2520 wish names, or anyone appointed by the defendants.

A. Mr. Cuthbert I have never known or spoken to.

Q. And if he checked accounts and vouchers wherever he asked for them and if he took away copies of certain vouchers that he asked for to display to counsel, that is something you don't know anything about, is it?

A. I certainly never had any of Mr. Cuthbert's accounts or statements in my hands. Mr. Heyward did make, I understood, an investigation of some sort at the outset, an incomplete and impartial one, giving me a few sundry memoranda. He afterwards told me that he had met Mr. Carter, the secretary, and had decided to defer further investigation until the State's accountants were through. This is as near as I can recall.

Q. Was that the last you heard of it?

A. The last I heard of it.

Q. Now you stated yesterday or the day before that in view of the enormous output of the Consolidated Gas Company, you thought the production should be at a low operating cost. Having read the testimony before the Gas Commission, do you not recall Professor Bemis' statement that after a company gets an output of some seven hundred million feet per annum that there is virtually no reduction in the operating cost beyond that because of the greater——

A. On what page was that?

Q. I cannot give you the page. I merely asked if you do not remember that. You say you examined the record with care. I will refer you to the page at the next session if you wish it?

A. I wish it, if you please.

D. Do you remember any such testimony?

A. I have the general impression that such testimony has been given.

Q. Have you any doubt of the truth of that testimony if it was given by Prof. Bemis?

2521 A. My point of view is the point of view of an individual who has been actively engaged in the actual work of distributing light and——

Q. Gas or electricity?

A. Electricity more particularly, and gas in a smaller way, and I have been impressed by the fact that in neither can one afford to generalize. The only way is to take up any locality that is presented for that purpose and with thorough care for the details to make a very careful and accurate investigation, placing the limitations either of electricity or of gas or of any other enterprise and finding, from a vast number of averages which I have collected, running into the thousands, that there is nothing so dangerous or so unreliable as an average statement where the factors deduced from averages are not produced in other analogous or almost similar circumstances to the proposition to which you wish to apply them.

Q. Then if your testimony is understood as generalizing on this subject you wish to withdraw it, do you?

A. I said nothing of the sort.

Q. But you say it is dangerous to generalize?

A. With certain qualifications.

Q. Did you not generalize when you expressed the view that the cost ought to be reduced because of the increasing output in New York?

A. With the qualification you have omitted from my statement.

Q. What is that?

A. Unless the factors which are deduced in averages are deduced from similar propositions.

Q. Well, assuming that the cost of gas from the year 1900 to 1904, 5 years, computed on the same basis as reported by Mr. Teal to the Stevens Committee, stood at sixty-one cents almost exactly for the 5 years and that for 1905 it was 60.75 cents as reported by the Gas Commission, that would not indicate any considerable decrease in

2522 the cost of production of gas in New York City by reason of the increase from year to year of its output, would it?

A. As a pro rata matter it would not appear to do so.

Q. And if I understand you correctly, you stated that gas could be produced in New York City perhaps as low as 45 cents because of the report of some accountants in Chicago that such was the result of their examination in Chicago, is that right?

A. No, I thought that the probabilities were that with management of an economical character it might be even a little lower.

Q. Than Chicago?

A. Than the 45½ cents found in Chicago. I am referring now to the cash cost of raw or crude material and of productive labor and also of office organization, etc.

Q. Do you know whether the 45 cents which the accountants reported in Chicago included anything for taxes?

A. The accountant's statement was that it did.

Q. That it included taxes?

A. Yes, and renewals.

Q. Do you know what proportion of the streets of Chicago are covered with asphalt or block pavement on concrete, or other new

pavement of the expensive character which we have to go under in New York in attending to our distributing system?

A. That would affect the services only and I know that in Chicago they have continually increasing pavement of a better character going on, that is all I know about Chicago.

Q. Don't you know that the proportion of what may be called new pavement in Chicago is very small as compared with 90 per cent. and over in New York?

A. No, I do not know that.

Q. Don't you remember Professor Bemis saying that the cost of distribution in Chicago, would be affected in the way of reduction as compared with New York on account of the character of their
2523 streets which he described as very poorly paved?

A. I do not recall that fact.

Q. Do you know what they pay for oil in Chicago?

A. I don't know.

Q. Don't you remember that Professor Bemis' testimony was that they were able to get it there, nearer the fields, for about three cents per gallon as against 4.08 cents which we pay here on the average?

A. I recall the fact that he mentioned three cents per gallon.

Q. Well, if that be true and that would be a difference of one cent per gallon in the cost of oil and over, that, according to your book which I have quoted, would mean a difference of about five cents in the cost of gas in favor of Chicago as against New York on the score of oil, wouldn't it?

A. In speaking of the possibility in the reduction of the cost of gas in New York to the figures given by the accountants for Chicago I did not assume that the management of the New York companies would differ very largely or the prices differ very largely from those obtained in Chicago. For instance the——

Q. Well, I am not going into that, if you will permit me. I don't care to waste time on that, but I ask you a question which I think is susceptible of an easy answer.

Mr. MATHEWSON: Mr. Stenographer, read the question.

The STENOGRAPHER (reading): Well, if that be true and that would be a difference of one cent per gallon in the cost of oil, that, according to your book which I have quoted, would mean a difference of about five cents in the cost of gas in the favor of Chicago as against New York on the score of oil, wouldn't it?

Mr. MATHEWSON: So far as the oil is concerned.

2524 A. I assume that the oil could by proper management be procured at the same price in New York as it is in Chicago.

Q. Well, please assume the facts.

A. I have stated in my book that one cent in the price of oil will very nearly increase or decrease the cost of gas about five cents, which is true.

Q. Now, do you know whether Marwick, Mitchell & Company, these accountants who made the examination, were experts in the gas business or had any practical knowledge of the gas business?

Mr. BURR: That we went over yesterday.

Mr. MATHEWSON: Oh, no, we did not.

A. I have been told that they had had considerable experience in the gas business.

Q. In operating gas works?

A. In accounting gas works.

Q. Didn't you say the other day that the reports of accountants unless they were practically familiar with the gas business would give no idea as to what the cost of gas was or give any exact figure as to the cost of gas?

Mr. BURR: Objected to, because the testimony that was given yesterday was that accountants who had no special knowledge of the gas business unless advised by a gas engineer who had could not bring about the results that should be obtained.

Mr. MATHEWSON: They were not advised.

Mr. BURR: You evidently know all about it.

Mr. MATHEWSON: I do, a good deal more, I think, than you do, Mr. Burr.

Mr. BURR: There is his testimony yesterday though. You can refer to it.

The MASTER: I will allow him to answer the question.

2525 A. I said, referring to my testimony of yesterday: "A. Unless directed by someone familiar with the gas business."

Q. Have you any knowledge that these accountants were directed by any one familiar with the gas business, and if so by whom?

A. I was told that they themselves were familiar with the gas business.

Q. In what way?

A. As accountants.

Q. Any practical knowledge of gas operations?

A. Practical knowledge of the ordinary methods of gas accounting.

Q. Yes, but with the operations of gas companies, practically familiar?

A. I so inferred from what was stated to me.

Q. Did you understand that they had ever operated gas works or had been, as operators of gas works, concerned with the distributions of items to capital and operating cost?

Mr. BURR: Objected to as incompetent, irrelevant and immaterial. His understanding of what their capability or knowledge was, has nothing whatever to do with it.

Objection overruled; exception.

A. It was only a general knowledge.

Q. Will you point out to me in the report of these experts where they say they included taxes?

A. Report of the Committee of Gas, Oil and Electricity to the general council of the City of Chicago, January 29, 1906, page 8.

Q. That is not the report, I think, that statement of Mr. Cowdery, of St. Louis.

A. This is the report of the committee, you know.

Q. Oh, no.

A. Page 8, of the report of the committee.

2526 Q. No, that is the statement. I am talking now of the report of the accountants.

Mr. BURR: He is reading from the official report of the committee.

Mr. MATHEWSON: He has stated that they included taxes in their 45 cents and I ask where it is stated.

The WITNESS: I am reading from the report.

Q. The report of the accountants I refer to. Do you find any such statement in the report of the accountants?

A. I do not. I find it in the report of the committee.

Mr. BURR: On what page?

The WITNESS: On page 8.

Q. That is in the statement of Prof. Edward W. Bemis, quoted in this pamphlet, is it not?

A. As is also the report of the accountants.

Q. Precisely, but is there any statement in the report of the accountants that they included taxes?

A. I have answered that question.

Q. Is there?

A. I have answered that question by saying that they did not.

Q. Very good. Will you look on page 40 of this pamphlet and see if there is not a communication from Marwick, Mitchell & Company to the Hon. Lynn H. Young, chairman of the Committee of Gas, Oil & Electric Light of the Common Council of the City of Chicago, dated New York January 22, 1906, in which they say "no allowance is however included in either statement for the wear and tear which is usually conceded to occur in excess of what is covered by renewals." That statement appears, does it not, as I have quoted it?

A. I see that, yes.

Q. So that if there was wear and tear generally conceded in excess of the renewals actually paid out, that would mean an addi-

2527 tion to the 45.45 cents, would it not, assuming the first amount to be correct?

A. That is what I refer to in my various statements in my book covering in a general way all of those matters; the cost given by Marwick, Mitchell & Company is the cash cost to which I make continual reference in all I have testified in regard to gas.

Q. Now, while you have quoted from Prof. Bemis on page 8 of this pamphlet, have you observed that his final estimate of the amount chargeable for gas as appears at page 3 at the bottom is 51.96 cents, in round figures 52 cents?

A. I have observed it at the outset.

Q. And Mr. Cowdery of St. Louis, was 53.75 cents?

A. Yes.

Q. And Dr. Humphreys was 53 cents?

A. Yes.

Q. Who is Mr. Cowdery?

A. Manager of the Laclede Gas Works.

Q. A man of very large experience in the gas business, is he not?

A. A man of experience.

Q. And large experience, isn't he?

A. As to what extent it goes, I don't know.

Q. And these figures that I have given you are without allowance for reserve, which appears at the top of page 4, or accruing depreciation or reserve for contingencies or allowance for extraordinary depreciation as appeared at the top of said page 4 and also without any allowance for bond interest and dividends, which Prof. Bemis states to be 19.2 cents, Mr. Cowdery to be 34.92 cents and Dr. Humphreys to be about 32 cents; is that right?

A. All of whom were entitled to their own opinion.

Q. Certainly.

A. I have none regarding it.

Q. But the figures 51.96 for Bemis, 53.75 for Cowdery, and 53 for Humphreys were exclusive of these other items, which I have mentioned.

A. Apparently.

2528 Q. And the total including those for Prof. Bemis was 74.16 cents, Mr. Cowdery 98.67, and Dr. Humphreys 95 cents.

A. Yes.

Mr. BURR: Are you reading from the official report of the Chicago Committee of Gas, Oil and Electricity?

Mr. MATHEWSON: Yes, from this same pamphlet respecting which you have questioned the witness.

Q. Do you know how the cost of coal in Chicago compares to the cost in New York.

A. That depends upon whether it is anthracite or bituminous coal.

Q. Have you made any investigation as to the rate of wages payable in Chicago as compared with New York?

A. I have made none.

Q. Referring to your supposititious cost of $2.00 or less per thousand feet for the establishment of a gas plant, do you observe in this same pamphlet that Prof. Bemis estimates for the establishment of a plant, $3.20 per thousand cubic feet?

A. What page is that, is it page 19?

Q. Yes—pages 18 and 19.

A. I have read that and I presume that he did not use the capacity factor in estimating the value.

Q. No, but he does say, "I do not know of any gas company that was successfully floated, on a basis of 6 per cent. of its structural value with the exception of Cleveland. I do not know of any company that has started in with an entirely new plant on a basis of $3.20 per thousand output that was floated on a 6 per cent. basis." Is that correctly quoted?

A. On what page, if you please.

Q. Page 18, I believe, second column about the middle.

A. That seems correct.

—. And Prof. Bemis took $3.20 on the next page "as the
2529 approximate cost of structural value," did he not, in making his computations and discussions?

A. Apparently.

Q. Now you say you have read all the testimony before the Gas Commission. Do you remember Prof. Bemis' testimony that in Chicago there was practically no rock as there is in New York?

A. I do not, but I know that is a fact.

Q. So that the installation of a distributing system in the City of Chicago per mile of mains would be less expensive than in New York where there is a considerable amount of rock work to do, would it not?

A. I do not know how considerable the rock work is in New York, as I have not had an opportunity to examine the maps.

Q. You know there is considerable rock work from your own observation in going about town?

A. I have seen rock in New York.

Q. And that would tend to increase cost of the distributive system?

A. If the distributive system is in the rock.

Q So, too, as to the valuation of land, is not the situation in Chicago such that you can go to a greater distance from the centre of population to establish your plants than you are able to in the Island of Manhattan which is surrounded by water.

A. Appaently not, in the case of Astoria.

Q. Will you please answer my question?

A. No.

Mr. MATHEWSON: Well, I ask that the question be repeated and I ask that the witness answer it.

(Question read by stenographer.)

Q. We are dealing here with the plants which are established in this present valuation largely?

A. My answer is no.

Q. You think the land then in the outskirts of Chicago would be as valuable as land in the City of New York, where the gas
2530 plants of this Company are established, do you?

A. Positively, I am not a land expert.

Q. No, that is a fair answer. Would you expect the cost of plants constructed from time to time as the plants of the Consolidated Gas Company have been to be greater or less than the cost under similar conditions of an entire plant covering the whole capacity constructed at one time?

A. That would depend altogether on the scale of economy which was adopted in the construction of the new plant and largely on the ability of the engineer in design and in the capacity and shrewdness of the business manager and purchaser. There are a great many factors entering in——

Q. Oh, yes, but assuming those things to be equal, is it not a fact in your judgment if a plant were to be built to cover the entire capacity with everything before the engineer designing it, and the job to be done wholesale, so to speak, with full knowledge of what was required, that he could produce the plant for less money than would be invested in plants which were built for sixty or seventy years, to meet the requirement of consumption as it appeared?

A. That would depend largely on the scale of prices, whether it had or had not remained constant during the sixty or seventy years.

Q. Well, supposing those things to have remained constant?

A. That is a theory which is never true——

Q. Oh, of course.

A. But assuming such to be the case it would be easier to build, providing properly designed and cared for, a single station up to a large capacity, than to build a large number of small stations, and the result I think would be quite favorable in economy of installation and in economy of operation, subsequently.

Q. Is it not your experience that products of iron, such as
2531 pipe, say, in the 70's, were very much more expensive than now, going as high as $50 or $60 a ton?

A. Even higher than that in the 70's.

Q. Now, in respect to Philadelphia, do you intend to assert that the Philadelphia Gas Company sells gas to anybody at 78 cents, and if so, to whom?

A. No. I have asserted that the average price received by the United Gas Improvement Company of Philadelphia for the gas that it sells or gives away to the city is about 78.1 cents during the past eight years.

Q. We will see whether it gives away any. As a matter of fact all the gas that the company sells so far as you know and for which it receives returns from the consumers of gas in Philadelphia aside from the city, is sold at $1.00, is it not?

A. It is.

Q. And am I right in the impression that some time ago an ordinance to reduce the price to 90 cents was defeated or vetoed by the Mayor?

A. It was vetoed by the Mayor.

Q. Now, the Philadelphia Gas Company as a matter of fact or the United Gas Improvement Company leases from the city a great part of the plant which it operates, the plant having originally belonged to the city, doesn't it?

A. It still belongs to the city.

Q. Certainly, it still belongs to the city and is merely leased by the gas company.

A. Yes.

Q. Now, whatever gas the company delivers to the city is delivered, is it not, in whole or in part, as compensation or rental for the property or plant of the city which the company is allowed to use, and it is not given to the city at all, except as consideration for the use of the property, is it not?

A. Well, I don't think that is specifically stated. I wonder if I have the lease here. No, I haven't the lease here; I have it at my office.

Q. Well, is it not your recollection that the gas is delivered
2532 to the city as compensation for the use by the company of the property of the city which the company uses?

A. I know the gas is delivered to the city free of charge. I don't know——

Q. Pursuant to the contract under which the company uses the city's plant to manufacture gas?

A. Yes.

Q. Your 78.1 is obtained by dividing the amount received by the company from private consumers to which it sells gas at $1.00 by the gas delivered to private consumers plus the gas delivered to the city under this contract, is that not right?

A. My first affidavit, page 22. The United Gas Improvement Company, in return for the use of the gas works, Article 4, binds itself to spend not less than $15,000,000 for enlargements and improvements in thirty years. Article 5, the United Gas Improvement Company agrees to pay the City of Philadelphia $10,000 each year for salaries of inspectors of meters and gas, and to furnish at its own expense proper stations for testing the candle-power of gas located at a distance not less than one mile from each point of manufacture and to fully equip them.

Article 7. The United Gas Improvement Company agrees to supply without charge such amounts of gas as may be required for illuminating Philadelphia's public buildings.

Article 8. The United Gas Improvement Company agrees to supply without charge all gas for the city's street lamps and lamps in public squares and to add at its own expense, 300 lamps each year to the existing number in 1897.

Article 9. The United Gas Improvement Company agrees, at its own cost and expense, to run all services, make all connections between street lamps and its distributing pipes or mains, to furnish all
2533 burners required on street lamps and light, clean, extinguish and repair lamps and lanterns and keep in repair all lamp-posts, lamps and lanterns in use during the term of this lease.

Article 10. Until otherwise provided by ordinances of Council to charge all consumers except the City $1.00 per thousand cubic feet retaining on this charge until December 31, 1907, 90 cents per thousand cubic feet; then until December 31, 1912, 85 cents per thousand cubic feet; then until December 31, 1917, 80 cents per thousand cubic feet; then until December 31, 1927, 75 cents per thousand cubic feet, and pay all surplus collected into the City Treasury.

During the present period the City is at liberty to retain about 10 cents for each one thousand cubic feet sold or, if the City Council so wish, to put the price of gas at 90 cents, leaving nothing for the City Treasury. To recapitulate, since 1897, a period of 8 years, the United Gas Improvement Company has collected of citizens $1.00 for every 1,000 cubic feet of 22 c. p. gas, and it has paid into the City Treasury about 10 cents per one thousand cubic feet of gas, and furnished free of charge all the gas required for street lights and public buildings in Philadelphia, and has at its own expense, lighted, extinguished, cleaned, repaired and connected lamp-posts and street lamps, furnished test inspection stations and paid $10,000 per year for salaries of such inspectors.

Mr. MATHEWSON: Now, will you read the question?

(Question read by Stenographer as follows):

Q. Your 78.1 cent- is obtained by dividing the amount received by

the company from private consumers to which it sells gas at $1.00 by the gas delivered to private consumers plus the gas delivered to the City under this contract, is that not right?

2534 A. Is that the question?

Q. Yes, simply how you get 78.1?

A. Taking this statement and embodying the figures required——

Mr. MATHEWSON: Will you read the question?

Question repeated.

Q. Is that right?

A. Taking the figures arising under this contract, we find the net balance of the United Gas Improvement Company to be $35,085,479.40 which is divided by the sum of 40,243,341,550 cubic feet plus 4,639,899,816 cubic feet, and gives an average of 78.1 cents.

Mr. BURR: As what?

The WITNESS: As the actual price per thousand cubic feet received by the United Gas Improvement Company of Philadelphia during the eight years.

Q. But if you charge one dollar to private citizens of Philadelphia, that is to everybody for gas, how is it possible to get the amount received for that gas on the part of the company down to 78 cents?

A. By the method explained just immediately before this; the figures are given.

Q. That 78 cents does not include anything for taxes, does it, on the plant of the City which it leased to the company?

A. It is the price, not the cost of gas I am giving.

Q. Well, I suppose the price at which a product may be sold depends upon the expenditures that the producer has to make. You do not understand that the U. G. I. Company has to pay anything for taxes on the city's plant which it is using, do you?

A. I know that city property is not taxed. I don't know whether the U. G. I. is or is not taxed on any portion of it.

Q. Well, if you assume taxes to be on their plant, about 7

2535 cents per thousand, as the testimony is they are in New York, and add that to 78 cents, that would make 85 cents, would it not?

A. 78 and 7 cents, 85 cents.

Q. As a matter of fact the U. G. I. Company do not have to earn and pay dividends on the value of the city plant which they use, and which a private company would be obliged to establish and earn upon, does it?

A. No, I think not.

Q. That would make a difference also in the calculation of a price at which gas would be fairly produced and sold, would it not?

A. They are very secretive about the question of their actual expenditures and their stock issues and their bonds. In fact there has been a good deal of public quarreling about them.

Q. Well, but as a matter of fact, if you do not have to earn and pay a dividend upon a capital that would naturally result in the ability to sell the product lower?

A. They claim that they have already expended the equivalent of $2.15 per annual thousand.

Q. Yes, I will come to that in a moment. But does the 40,243,341,550 cubic feet of gas which you specify in the table at page 29 include the gas which was delivered to the city or city buildings or lamps?

A. Column 3, you will observe gives you the free gas, 4,639,899,816.

Q. Yes, I understand that, but is that included in the forty billion?

A. Is what included in the forty billion?

Q. The 4,689,899,816?

A. No, not at all.

Q. If you will turn to page 33 of your affidavit it appears that in addition to the works belonging to the city of Philadelphia which the U. G. I. Company operates under lease it has added according to your statement additional plant which belongs to the Com-
2536 pany amounting to $16,018,192.22. Is that correct?

A. That is correct as the public statement made by them and printed in a Philadelphia newspaper.

Q. And that amounts to $2.15 annual thousand sales, doesn't it?

A. Yes, per annual thousand cubic feet of gas.

Q. Yes, which standing alone and excluding entirely the city plants which they lease and which they operate amounts to more than the $2.00 which you assumed as the structural value of a gas plant?

A. Yes, sir, it does.

Q. Now, as a matter of fact, is it not stipulated in the contract that if the lease is terminated the city of Philadelphia shall take over this plant which the Company has established and which amounts to $16,018,192.22, paying therefor the cost with 6 per cent.?

A. Yes.

Q. Now, are you familiar with a report of the Mayor of Philadelphia to the Special Senate Committee of Pennsylvania in or about May, 1895, in which Mayor Warwick estimates the value of the gas works belonging to the city at $30,000,000?

A. No, I am not familiar with that report. I was well acquainted with Mayor Warwick, though.

Q. Well, I am shown an extract from the report of the Special Senate Committee of May 8th, 1895, in which this appears. If it be true that the value of the Philadelphia city's plant which is used by the U. G. I. Company, is $30,000,000 and the value of the additional plants of the U. G. I. is $16,000,000 and over, that would make the total value of plant in Philadelphia upwards of $46,000,000, would it not?

A. If those statements were correct, yes.

Q. So instead of $2.15 as the structural value of the Philadelphia gas works, it would be something nearly three times that or about $6.00 per thousand cubic feet of output?

2537 A. That is true, and all of it is absolutely worthless from an engineering point of view, both the statement——

Q. Well, it was considered the fact, that the Company's addition to plant, which the city is to buy if it terminates the lease, amounts

to $16,000,000 and more. You considered that of sufficient probability so you have included it in your affidavit on this motion, have you not? You covered quite a large amount of your affidavit with the discussion of the subject at Philadelphia?

A. Referring to what?

Q. Referring to the structural value or cost of the plant which the U. G. I. has established in Philadelphia in addition to the plants of the city which the U. G. I. Co. leases and operates in the production of its gas?

A. What page?

Q. Page 33.

A. On page 33, I occupied one paragraph, making this statement:

"In his annual report of the U. G. I. Co., the statement is made that its investments in the Philadelphia Gas Works for building, apparatus, machinery, mains, pipes, services, connections, meters, appliances and appurtenances of the Philadelphia Gas Works, together with simple interest at 6 per cent., amounted to $16,018,192.22, which divided by the gas sold or given away during 1905 amounting to 7,434,524,760 cubic feet, gives $2.15 per annual one thousand cubic feet of gas."

Mr. BURR: What report did you refer to there in your affidavit, to the annual report?

The WITNESS: In this annual report of the United Gas Improvement Company.

Mr. BURR: You are not referring to the report to which Mr. Mathewson has just called your attention, by Mayor Warwick.

The WITNESS: Oh, no.

2538 Q. Well, there is one point which I am not quite clear upon. Referring to your total on page 29, in order to get 78.1 what divisor did you use?

A. 40,243,341,550 plus 4,639,899,816, I think it is. I think there is a misprint there.

Q. So, as a matter of fact, you did divide the amount received by the United Gas Improvement Company by private consumers for gas delivered to them by the amount of gas delivered to private consumers plus the amount of gas delivered to the city?

A. I so stated in my affidavit.

Q. I did not understand whether that was so or not.

A. Yes.

Q. You have referred to the report of J. Yalden, accountant for the Committee of 1886, and quoted from him a cost of $20,942,000 to the original companies of the plants as they existed in 1884. Did that 20,000,000——

A. At what page of my affidavit?

Q. I cannot tell you the page of your affidavit. It is down here, page 776, I think.

A. $20,942,632.85. I do not recall making such a statement or making out that figure.

Q. My recollection is that you did, but if I am mistaken——

A. I think Mr. Burr made use of that figure.

Q. My recollection is that you did, but if I am mistaken——

A. I think Mr. Burr made use of that figure but not myself.

Q. Did you not make use of the figure or the details or analysis of that figure in your testimony?

A. In my testimony I used a large number of fragmentary figures for the various divisions, but not the lump sum.

Q. Purporting to show the cost in those cases to the original companies of the property with which you were dealing?

A. Yes.

Q. Now, that figure of $20,942,000 does not include, does
2539 it, any accounts receivable or any cash or other working capital, nor even materials and supplies?

A. Well, as I stated to you before, I had not investigated that in my testimony. That was brought out by Mr. Burr, but not for myself. I could look that up, if you wish, between now and to-morrow.

Q. Very good. You say that you read the testimony before that Commission. Is it not the fact that Mr. Yalden's report so far as you have examined it merely gave the figures at which the various items of property were carried on the books of the constituent companies?

Mr. BURR: Well, the report, I would suggest, is in evidence and speaks for itself.

Mr. MATHEWSON: The testimony is not in evidence and he says he has read all the testimony. I am merely asking him for his information in this regard, whether that shows anything more than the figures at which the various items of *of* property were carried on the books of the constituent companies.

The WITNESS: On page 636 J. Yalden makes the statement as follows:

"To show these results I have compiled separate tables for each company, assimilated as near as practicable, giving the analysis of the Profit and Loss accounts, an account showing the capital used in their business, the investments on account of real estate, mains, meters, services, etc., the particulars of the sales to the Consolidated Gas Company, an account showing the dividends paid to the stockholders and a calculation thereon giving the difference between 10 per cent. on the capital stock as paid up and the actual sum
2540 divided. This is followed by a consideration in detail of the books of each of the six companies incorporated."

Q. Yes, but so far as your investigation goes, are not the figures of Mr. Yalden merely the figures at which the various items appeared on the books of the companies in their capital account or asset account?

A. In some cases, yes; in others, these figures are followed by notes elucidating the real meaning of the figures.

Q. That is quite true, but the figures themselves as relating to the different items are merely figures at which those items appear on the books of the company, is not that correct?

A. He appears to be a most excellent accountant and the figures are given accurately and annotated where he thinks they need further lucidation.

Q. But with that exception you would answer my question in the affirmative, or rather, with that explanation?

A. Yes.

Q. In examining the testimony there did you find any evidence at all introduced as to what was the actual cost to the constituent companies of the various items of property or any record of examination of vouchers or otherwise to determine whether the figures at which they were carried on the books of the company really represented their original cost or whether they represented the cost as charged down or charged off?

A. Yes; for instance, take the Manhattan Gas Light Company, price of sale to the Consolidated Gas Company, November 11, 1884, page 671. Account to Real Estate and also to plant——

Q. To plant, how much?

A. On page 672 the following note occurs. The plant given in detail is put at $64,247.49 and then the further explanation of real estate is: "Real Estate, additions and improvements, North
2541 River, $1,774,919.38; Real Estate, additions and improvements, East River, $1,486,607.42; Real Estate, additions and improvements, Irving Plaec, $90.203,94; making a total of $3,251,-730.74."

Q. That is not my question, Professor. I do not think you quite had in hand what I meant.

A. That is where I——

Q. You say you have gone over the testimony and read the testimony given before that Commission, and I want to know whether you found any testimony before that Commission of any witness, that the original cost of any item of assets of these six constituent companies was actually the figure at which that item was carried on the books of the company.

A. No, unless Mr. Yalden is a witness.

Q. No, he simply took the figures, that is the point.

Mr. BURR: The report refers to the situation in that regard.

Mr. MATHEWSON: Yes, so it does, and I will call attention to the report.

Mr. BURR: And so did Mr. Gawtry in his testimony.

Mr. MATHEWSON: Well, I will not ask the witness regarding this, and in view of Mr. Burr's statement this report which is in evidence, if the Master please, is that the majority of the Commission did not determine the original cost, stating that they did not consider it necessary, in view of the fact that the Act of 1884 authorized the consolidation upon the basis of the then value of the property.

Mr. BURR: I have not characterized what the report is, but I see that the report speaks of the situation as they found it in that regard.

Mr. MATHEWSON: Yes, and the majority of the Commis-
2542 sion, as the Master will observe, stated that there was no evidence that they were valued higher than they were worth, except the evidence that they seem to have been valued higher than they appeared to have been charged on the company's books.

Q. Now, you said that at the time of the consolidation, or at the

time of the formation of the Consolidated Gas Company nothing was sold and nothing was paid for.

A. On what page, please?

Q. I cannot tell you. But am I not correct in substance in quoting your statement, or don't you remember what you did say?

Mr. BURR: If you have his testimony before you, refer him to some specific statement, as it would be much easier.

Mr. MATHEWSON: That was yesterday's testimony, and I only received it as I came in this morning, and I have not had time to annotate it.

Mr. BURR: I do not think it was yesterday.

The MASTER: I think it was the first day.

Mr. MATHEWSON: Perhaps so.

The MASTER: Well, is it important as to the language?

The WITNESS: Whatever the printed matter may show, I recall that I said that so far as the stockholders were concerned, nothing was sold and nothing was paid for in money. Of course the minor matters of——

Mr. MATHEWSON: Page 2346, the middle of the page.

Mr. BURR: Well, you quoted it from memory almost exactly.

2543 The WITNESS: So far as the stockholders were concerned.

Q. Does your statement apply only to the tangible assets appraised at $29,994,000 in 1884 and the franchises appraised at $7,781,000, making a total of $37,7[illegible].000?

A. Only to stockholders, and what they gave and what they received.

Q. Does it apply only to those two amounts which I have specified, or the property which was covered by those two valuations?

A. Well, so far as the stockholders were concerned.

Q. You do know, don't you, that from the constituent companies immediately following the consolidation there were obtained further assets of one kind and another for which the Consolidated Gas Company paid to the constituent companies something like $600,000 or perhaps more?

A. Yes, I spoke only of the stockholders and what the stockholders did.

Q. And of the property included in the original appraisement to which I have referred?

A. And to the property which at that time was transferred from the six companies to the Consolidated Gas Company.

Mr. BURR: I think there is a word omitted in this statement: "The stockholders of the six companies received in exchange for their stock certificates in this company an average of about what was their face value in the stock of the Consolidated Gas Company." Was it not double?

See page 2347.

The WITNESS: About twice their face value.

Mr. BURR: So that correction is to be noted there.

2544 Q. You do not understand, do you, that the $20,942,000 to which reference has been made included the franchises of the constituent companies?

A. I have never looked into that total. I will do so, if you like, between now and to-morrow.

Mr. MATHEWSON: Is it claimed that that did include franchises, or that there was any item of franchises going to make up that amount of $20,294,000 which you say the property of the constituent companies was carried at on their books?

Mr. BURR: I would not say at this moment.

Mr. MATHEWSON: My information is that it does not, and I wish to have it clear if I am right or wrong.

Q. You know that the constituent companies, some of them, were very prosperous and were paying very large dividends prior to the consolidation, don't you?

A. I do.

Q. And is it not your general experience that companies in that situation are liable to pay construction out of operating cost or to charge down very liberally for depreciation of plant or otherwise?

A. I would not like to say from so limited a general experience as I have had that this applies exactly to gas companies, but I should say that the American is very apt to be lavish when he has plenty of money.

Q. Yes, and so you have known a great many instances where the book value of assets does not represent what the investment therein was, have you not?

A. I have; and the reverse also.

Q. And do you observe in the report of the committee of 1886, a statement that $39,078,000 which included franchises at $7,781,000 and tangible property at $29,994,000 and $1,103,000 for working capital, was only the market value of the securities of the
2545 constituent companies outstanding at the time of the consolidation?

A. I understand that the very basis of the whole consolidation was an attempt to take the existing stocks, add to them their premiums and to increase the stock of the Consolidated Gas Company for distribution to a point which was equivalent to the par value plus a premium on the stock of the original six companies.

Q. That is to the market values of the six constituent companies?

A. Whatever that was.

Q. On certain computations to which I shall call attention in a few moments, you said you were compelled to take the company's figures as to the sales of gas for the last year or two. Don't you know that the company's sales and their amount was checked over by the accountant for one — the defendants?

A. May I ask the name?

Mr. MATHEWSON: Mr. Cuthbert wasn't it?

Mr. CARTER: Yes.

Q. By Mr. Cuthbert, for the express purpose of verifying the sales as they were presented in the exhibit.

A. Nothing coming from Mr. Cuthbert has been handed me by any of the defendants.

Q. And you have not been informed by Mr. Hayward of the truth of those figures?

A. Mr. Hayward seemed to be very enthusiastic with regard to the skill and ability displayed in their bookkeeping, but did not go into details.

Q. You made certain deductions as to the structural cost of plants in Massachusetts in the cities of Cambridge, Fall River, Lowell and Worcester, showing that their structural values as carried on the books of those four companies averaged $3.20 per thousand feet of sales. And you then computed what the capitalization per thousand feet of sales would be, provided the sales of the company equalled what you assumed to be the full capacity of the plants. Do
2546 you remember what that latter figure was per thousand feet of sales? $1.75 appears at page 2351 of the record, if that is right?

A. Page 2351, structural cost per annual thousand, divisor——

Q. No matter about the divisor, I am merely asking the figure which you obtained as the structural cost per thousand?

A. $1.78.

Q. That was on the assumption that each one of these plants produced the daily capacity evidenced in the fourth column, was it not?

A. You mean the year through?

Q. No, that that is the daily maximum capacity, as you might call it, or a maximum capacity for a day?

A. It is the daily capacity returned by the company's managers to the Massachusetts Gas and Electricity Commission.

Q. Does the company return to the Massachusetts Gas an- Electricity Commission a statement of its annual capacity?

A. Yes.

Q. Or of its daily maximum capacity?

A. It has given its daily maximum capacity in cubic feet.

Q. You did not obtain this by dividing the annual capacity by 200?

A. No, it is from the book as referred to here.

Q. Will you show me the book and the column, I refer to the Massachusetts report from which you have been quoting in that testimony?

A. Yes.

Q. Just give me the page and column of that report?

A. Page 114, report for the calendar year 1905.

Q. Now, taking the last one of the four cities, Worcester, I find on page 115 of this report for 1905 of the Massachusetts Gas Commission the greatest output on any one day was 2,019,000 feet, is that correct?

A. That is correct.

Q. Now, the 4,200,000 which you have placed in the fourth column under the head of daily capacity appears on the left
2547 on page 115 of this report and is under what heading?

A. Daily capacity of works.

Q. Yes. Do you understand works to mean the distributing system of the company and they could distribute 4,200,000 feet of

gas daily as their distributing plant now stands, including meters, services, mains, etc.?

A. Well, I presume that under pressure, as far as the mains are concerned, if they could get out that much out of the works, that they could also get it through their mains and to consumers.

Q. But let us take the conditions which you understand to prevail generally in Worcester and such places. Do you think that the Company could more than double their output without the requirement of more meters and more services to furnish their consumers? Would not that increased output mean more meters, services and a larger plant and distributing system naturally and also almost inevitably according to your experience?

A. Yes, that is the reason why I made an extra allowance of about five million dollars for the gas sales of purchased gas in the case of the Consolidated Gas Company.

Q. No, I am speaking now of the Worcester Gas Company. Would you not expect if and when their output became 4,200,000 feet that their distributing plant would be larger and a greater investment in it than when their output is only 2,019,000 feet per day.

A. Well, without a careful local investigation I could not express an opinion on that.

Q. Taking your general understanding of the gas business, would you not expect that when the daily output of Worcester more than doubled beyond the present two million feet that that would mean more consumers, and more meters and more services and a greater distributing plant than exists to-day?

A. That is a generalization in which I would add to the
2548 facts actually stated by the managers on their reports to the Massachusetts State Gas and Electricity Commission, and I have taken as what they have stated as being in round figures and approximately correct.

Q. But this document here is headed "Daily Capacity of Works?"

A. Yes.

Q. You do not understand it to include the distributing system of the company, do you?

A. I understood this much that the distributing system was probably quite equal to any demands that came upon it, and with a very large surplus.

Q. But is it not your experience that if the demand comes for double the amount of gas which they now sell, it would — more consumers, and therefore more meters and more services than at present existing?

A. Naturally, yes. Increased demand means increased meters and services.

Q. Then if that be the case the amount of your structural assets when you name to your maximum output would probably be greater than the structural assets as they appear to-day, would they not?

A. No, that would be *pro rata* less per annual thousand of sales.

Q. Yes, but you have already taken the full capacity of 4,200,000 feet per day and anticipated that increase in dividing——

A. Well, I also call your attention to the fact that under existing

circumstances of actual output that the actual structural cost amounted to $3.20 and that the capacity factor amounted to $111.3.

Q. But let me call your attention to this, you have taken the amount of structural assets of the Company as you assume them to appear upon the books to-day and have divided those structural assets not by the output as it is to-day, that is 2,000,000 feet, but by more than twice that or 4,200,000 feet, in the case of Worcester,
2549 which would give a lower quotient than would result had you divided the structural assets as they will exist when the Company has an output of 4,200,000 by 4,200,000. That is the point, and if there would be an increase in the structural assets at the time that the daily capacity of 4,200,000 is reached then your $1.78 would be too low a quotient, would it not?

A. That is a little too long to answer directly. I have assumed this, that the daily capacity of any works multiplied by a capacity factor of 200, which factor has been fixed by Mr. Bradley, Chief Engineer, and who is well known to most gas engineers.

Mr. MATHEWSON: We accept that.

The WITNESS (continuing): And that is not 365 days which would be necessary to make good your statement that every day the works would be run to a capacity of 4,200,000 cubic feet.

Q. I do not make any such statement and I do not make any such ridiculous claim. I should rebut it if you made it. My point is this, you have obtained $1.78 by dividing the value of the structural assets as they are carried on these books now; by an output more than double the present output; in other words by an output equal to the capacity of the works.

A. Not quite, less than double, if you please.

Q. Well, call it that, it is more anyway than the present output. Now, in the case of Worcester, the daily capacity is stated at 4,200,000 and the gross output is stated at 2,019,000, so that in that case the estimated capacity is greater than the present output as I have stated. But is not this a fact, that if the structural assets should be greater when this daily capacity is reached and that greater amount of gas is put out than now then your figure of $1.78 would be too low.

2550 A. The figure given for Worcester under which you are speaking with a capacity factor of 200 is not $1.78 but $1.54 which is a much lower sum.

Q. Oh, do not take one case, take any case or all the cases. I think you understand what my question is, don't you, Professor, and is it difficult to answer it?

A. No, but you took an average of four cases, and then you took a single case, Worcester, and you mixed them up.

Q. No, I didn't mix them up at all. I am sorry I mixed you up for I didn't intend to. But confining ourselves to Worcester for the moment and we will assume the quotient is $1.54. Now, if the assets at Worcester when the output reaches 4,200,000 feet for the maximum daily capacity, which would mean an annual capacity of 200 times that, shall exceed the structural assets $1,296,571.04, then your quotient would be somewhat greater than $1.54, wouldn't it, for the value of the structural assets at that time?

A. Not necessarily. It could not be decided except by a careful inspection of the Worcester works whether that would or would not.

Q. Oh, well, these are figures which you assumed, I did not assume them. We are assuming that the value of the structural assets is now $1,296,571.04 for Worcester, and I say that if the structural assets were greater than that at the time when the maximum capacity was reached, which is more than twice the present output, then the structural cost per annual thousand would not be $1.54 but would be something greater than that, wouldn't it?

A. Well, if you increase the structural assets without increasing the capacity, the daily capacity then, of course, using a capacity factor of 200 then your average of $1.54 per annual thousand might be increased to any amount, dependent entirely on how
2551 much you swell the sum of $1,296,571.04 without increasing thereby the capacity of the works and mains.

Q. Precisely. Now, did you make any examination of the Worcester works at all to see whether their full capacity was actually 4,200,000 cubic feet, even at the works, all parts of the works, or whether it is simply applied to the generating part?

A. I have visited Worcester lately a couple of times in connection with my engineering work and merely casually looked at the works. Of course I have to take these figures from the report of the Gas and Electric Light Commissioners, but they appeared to me to be exceedingly neat and well managed so far as I was able to go, as a mere stranger.

Q. Well, now do you understand that the purifying apparatus at the works is sufficient to take care of 4,200,000?

A. The book so states——

Q. The book states that the purifying apparatus has a capacity of 4,200,000 cubic feet per day, are you sure about that?

A. The book states so.

Q. What books?

A. The book—the report which is before you of 1905.

Q. Of the Massachusetts Gas Commission?

A. Of the Massachusetts Gas Commission.

Q. You do not mean to say that the books of the Worcester Gas Company show that they have a purifying capacity——

A. I know nothing about that. I am referring to the book in my own possession here.

Q. If I am informed and if I am correct that the purifying capacity is not much if any over 3,000,000 feet per day, and that the generating capacity is 4,200,000 feet, that would make an additional amount to be charged to structural assets beyond any increase in distribution system if you were to have an output of 4,200,000 feet per day, wouldn't it?

A. Possibly.

2552 Q. So that all of these deductions depend upon investigations which you have not personally made as to the capacity of the various parts of the plant, is that so?

Mr. BURR: That is hardly a fair assumption.

A. Hardly. I am taking a statement of the Commission which has long been known as careful and accurate in all its statements.

Q. But it is not your own investigation at all except as you took it from reports of the Commission, is it?

A. No.

Mr. BURR: It is after half past four and I suggest that we take a recess now.

Mr. MATHEWSON: It will take me some time to finish with this subject.

At 4.30 P. M. adjourned to October 5, 1906, at 11 A. M.

Last Exhibits:

Complainant's 255,
State's W,
City's 54.

2553 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, FRIDAY, *October 5th*, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Burr.

2554 WILLIAM D. MARKS resumes the stand.

Cross-examination continued by Mr. MATHEWSON:

Q. Have you ever operated a well-established gas works which has been in operation for many years in which the sales were subsequently doubled without increasing the investment in works or the distribution system, or both?

A. First of all, I have never operated a gas works for a number of years consecutively. My work has been the building of them to such an extent as they have gone and the inauguration of them.

Q. I merely asked you as to your experience. You gave your views yesterday. Do you know, and if so will you name any engineer or any corporation that has established or proceeded with the establishment of a gas plant in the East upon a basis of $1.78 per thousand feet to cover land, plant, mains and all other investment, including working capital?

A. Including working capital, do you say?

Q. Yes, including the whole investment which the company requires for its gas business?

A. Referring to the four Massachusetts gas companies, the $1.78 of which you speak was derived entirely as actual structural cost, and does not include the working capital.

Q. Well, exclude working capital, but I ask you the same question, if you will give me the name of any engineer who has taken the formula of $1.78, or any smaller amount, and proceeded under that formula for the construction of a gas works in the East, including all the investment required, including land, except working capital?

A. Those are my own figures, and I cannot give you the figures of other engineers.

2555 Q. Now, do I understand in this computation that you accepted blindly, to use your own word, the figures in the report which these companies made to the Massachusetts Gas Commission, without even an examination of the individuals who made them for explanation or verification?

A. I took the figures as given by the report of the Massachusetts Gas and Electricity Commission in their report for 1905.

Q. Now let us take the four companies, Cambridge, Fall River, Lowell and Worcester, to which you have testified on page 2351 and following. You say those four stations in Massachusetts, or cities, were chosen as resembling New York. Will you state in what respects they resemble New York?

A. As being a group of stations, similar, as nearly as could be found, to the group of stations owned by the Consolidated Gas Company.

Q. You don't claim that the cities themselves particularly resemble New York, do you?

A. I was very careful to state their population.

Q. In other respects except population?

A. A great deal could be said, but I will say that they are all of them a much poorer field for gas sales than New York City. I can add to that to any extent that you may desire.

Q. Well, we were speaking now of the structural cost of the plants of the company, not of the field for sales. You spoke about holders. Do you know whether these companies in Massachusetts have any greater proportion of small holders than the Consolidated Gas Company has?

A. I have not the details as to the holders of these companies. Their daily capacity being small as compared with the New York capacity and output, they would require smaller holders.

Q. Would they necessarily require smaller holders, or a smaller holder capacity? Which do you mean?

A. Both.

2556 Q. Don't you know that the Consolidated Gas Company has quite a large number of small holders which have been established to meet the requirements of consumption in the past?

A. I do, relatively speaking.

Q. Did you make any investigation in Massachusetts of these four

companies to show to what extent, if at all, they had increased their plants, being pro-perous companies, without charging the increase adequately in either to share capital or to construction cost in their books?

A. I confined myself to actual figures given in the books and in the sworn report of the Massachusetts State Gas and Electricity Commission.

Q. Don't you know that it is well understood among gas engineers in the East that the Massachusetts companies put money largely into additional construction without charge in their books to additional capital account?

A. I presume instances of that sort have occurred. I don't believe it to be general.

Q. You haven't any personal information on the subject, have you?

A. I have heard the matter discussed.

Q. Have you seen the sworn report of these companies or is your information taken wholly from the report of the Gas Commission in which they are quoted?

A. My information is taken from the report of the Massachusetts State Gas and Electricity Commission for 1905.

Q. Do I understand you to say that the cost of land in New York to the Consolidated Gas Company or to the six constituent companies which forms it was less than the cost of land to the gas companies in these four cities in Massachusetts to which you refer?

A. You did not. I stated distinctly I am not a land expert.

2557 Q. You stated that subsequently. What did you say? Didn't you say in substance in your direct testimony that land cost the original companies in your opinion in New York no more than it cost the four Boston gas companies?

A. At what page?

Q. I ask you if you did not so testify?

A. I do not recall.

Q. I have a note to that effect and you either so testified or I misunderstood you.

A. I do not recall it, but——

Q. If you did so testify, do you wish to modify it?

A. If you will allow me. I do not recall making such a statement, but as nearly every bit of the land of the Consolidated Gas Company was purchased anterior to 1884 and some of it as far back as 1823 and 1824 it is probable that the average cost of land is somewhat akin to the average cost of the land in these smaller cities.

Q. Do you say that as a real estate expert or on your general judgment as a man?

A. On my general judgment. I am not a real estate expert.

Q. Now, Doctor, how long has the Lowell Gas Company been in existence and when did they buy their land?

A. I could not state without reference to the figures.

Q. Do you know what the population of Lowell was or is now as compared with the population of New York even in 1823?

A. The population of Lowell now is given as 94,889.

Q. Was not the population of New York even in 1823 a great deal more than that?

A. I could tell if I had reference to the census.

Q. Well, what do you think? Have you any doubt about it without looking at the census?

A. I recollect visiting New York as a boy in 1865 and I recollect that the buildings became rather thin back of the Astor House
2558 up Broadway, and that at 42nd Street there was termination of all travel, showing it to be quite a small city as compared to what it is now.

Q. Oh, yes; no doubt about that; but have you any doubt that in 1823 it was a larger city than Lowell is to-day?

A. I cannot give you any opinion on that point.

Q. Do you know when the Cambridge Gas Company bought its land?

A. I do not. I can look it up if you wish.

Q. Do you know when the Fall River Company bought its land?

A. I don't know when any of these companies bought their land nor did I look it up.

Q. Well, then have you any special basis for saying that you think the cost of land to these companies in the smaller Massachusetts cities, whenever it was bought, which you don't know, was no greater than the cost of land to the six constituent companies of the Consolidated Gas Company, which land was bought from 1823 up to 1884 or such a matter?

A. Yes, I looked over J. Yalden's report of the stated cost of the real estate anterior to 1884, so far as he could get it from the books.

Q. But you did not find in J. Yalden's report any report of the cost of land in Worcester, Lowell, Fall River or Cambridge, did you?

A. It was the cost of land in New York apparently.

Q. Have you any basis for stating that, in your judgment, the cost of land in New York to the constituent companies of the Consolidated Gas Company was no greater than it was to the four companies which you have named and, if so, state the foundation for that conclusion?

A. Careful study of the cost first made out from the original six books by Mr. Yalden and a subsequent study of such fragmentary information as was furnished in the testimony showing that
2559 sales at very good prices of considerable amounts of real estate had been made by the Consolidated Gas Company, enabling me to draw a rough inference that the total cost of the land was something less than three million—I mean the actual cost—how much less I do not know.

Q. The cost of the land now used you say by the Consolidated Gas Company in its business?

A. Yes, that is what I mean.

Q. Now, won't you go a step further and tell me the foundation of your belief or conclusion that the Massachusetts gas companies, to which you have referred, paid as much for their land as the New York companies did for theirs?

A. Simply the question of the population of the cities and my general knowledge of the growth of cities, as I was very careful to state

in my investigation that it was only a rude approximation and necessarily would be until I had more accurate information.

Q. But if you know neither the dates when either one of these companies purchased its land and do not know the population of those cities when the land was purchased, and do not even know the population of the City of New York when the New York companies purchased their lands, how does that give you any basis for that conclusion, in figuring upon the population?

A. Nothing more than a rude approximation was attempted or asserted.

By Mr. BURR:

Q. As to the value of the land?

A. As to the value of the land.

Q. In Massachusetts?

A. In Massachusetts or in New York.

By Mr. MATHEWSON:

2560 Q. Well, the cost of land is a very substantial element, isn't it, of the cost of a gas works and plant?

A. Sometimes, yes.

Q. And if the cost of land in New York City were substantially greater than the cost of land in Cambridge, Fall River, Lowell and Worcester, that fact would substantially affect any comparison which you chose to make on the basis of structural cost to these four Massachusetts companies per thousand feet of output or capacity, wouldn't it?

A. So far as the real estate was concerned, yes.

Q. Now, isn't it true that the average capital in the United States in gas undertakings per thousand feet is about $8.47 per thousand?

A. So the United States census is asserted to have said, but that includes a vast number of other small companies.

Q. Naturally. And isn't it true that by the same census it appears that the structural value of the plants of the gas companies in the United States, taken together, averages $7.23 per thousand feet?

A. Per thousand feet of what?

Q. Sales.

A. Thousand feet of sales?

Q. Yes.

A. Was there no capacity factor used?

Q. Well, I am asking you, Doctor. I think you referred in your affidavit to the showing of the United States census.

A. To state that it must be incorrect, I did.

Q. What is that?

A. To state that it must be incorrect, I did.

Q. Well, that is your conclusion, but I am asking you what the census shows?

A. The census shows what it shows, and you can refer to it.

Q. Well, will you state or can you state what that $7.23 represents or purports to represent in the United States census?

A. On page 11 of my first affidavit I have made the statement,

"It can hardly be claimed that a valuation fixed in this manner by inexpert legislators and lawyers can be accepted as a standard
2561 for the valuation of other works, nor would it be just to accept an average capital per thousand feet sold of $8.47 taken from the United States census as a basis on which to compute the proper capital employed in the gas works of the Island of Manhattan, since this average is obtained from an immense number of small gas works distributed all over the United States"——

Q. We understand that if it includes all the gas works in the United States it must include small as well as large companies. I am asking you what you understand this $7.23 in the United States census given as the structural value per thousand feet of all gas companies represents?

A. I am trying to find it. I do not recall that I have stated that figure.

Q. Well you are familiar with it, are you not?

A. I have heard it.

Q. And what do you understand that represents, $7.23 per what—thousands of sales or thousands of capacity?

A. I have not studied it specifically.

Q. But your recollection is that it is one or the other, is it not?

A. I will look the thing up, if you like, and tell you what I find out, but at the present time——

Q. No, you need not bother if you do not recall it, but I thought you had it in mind probably, having quoted the other. Now, let us take your testimony at page 2355. For instance, the Fall River Gas Company, Consumers' Deposits $429.85. You stated that all these things were carefully checked by you. I would like to have you point out to me in the report of the Massachusetts Gas Commission this item of $429.85.

See page 2357.

Mr. BURR: By the way, while he is looking for that, I want to call attention to a mistake on page 2357. The word on the fifth line, "liability," should be "variation."

2562 The WITNESS: That should be changed from "Consumers' Deposits" to "Interest Accrued But Not Due."

Q. Well, but you have not any item for any of these companies, "interest accrued and not due."

A. No, but I say in that case it should be.

Q. What are consumers' deposits, then?

A. Shall I read the whole of the liabilities to you?

Q. Oh, no, I merely said that I could not find consumers' deposits, $429.85. Now that was an error, wasn't it?

A. It was, I suppose, a stenographic error.

Q. Well, it was an error, no matter what kind of an error. What are consumers' deposits?

A. They do not appear in this. Apparently there are none.

Q. What about $2,193 next above in the Massachusetts report, deposits, $2,193?

A. On what page?

Q. Page 52, Roman lettering, of the Massachusetts Gas Report.

You say there are no consumers' deposits. Don't you find on page 52 of the Masachusetts Gas Report, under the head of Fall River Gas Company, deposits $2,193?

A. Yes. That should have been added. That, however, is an allowance which I should have had and did not get in.

Q. Well, whatever it is, that is another proposition. The fact is that $429.85 is an error and it should have read $2,193.00, (see statement p. 2355) is it not?

A. Yes, it is so much against my figures.

Q. That is all argument, Doctor. If you will just answer the questions and not argue each one, I think we will get along faster. What is the difference in your mind between floating and fixed liabilities?

A. Well, that is one that is not very clearly defined. A floating liability is in the nature of something which may be called up at any time for payment or within a very short time for pay-
2563 ment, while a fixed liability is a liability under the form of a bond which has a definite time of payment and perhaps very long-term notes or something of that sort.

Q. Well, you know that railroad companies and gas companies and other companies do raise capital that they use in their business by the use of notes, don't you, sometimes short term and sometimes long term notes?

A. Yes.

Q. Which are subsequently paid off or are funded into bonds, or what you might call fixed indebtedness of that character. That is quite common, is it not?

A. Recently it has become quite popular.

Q. Now, don't you know it may be called a regular practice pursued by the Massachusetts gas companies, or many of them, to issue notes to procure capital that they require, and subsequently to apply to the Gas Commission for leave to put them into the shape of bonds or stock?

A. That is not an unusual practice anywhere. I am not familiar particularly with Massachusetts.

Q. But under the Massachusetts statutes, bonds or stocks may be issued, may they not, only by consent of the Gas Commission?

A. Fortunately, yes.

Q. So that it is a common practice there, is it not, for companies to issue notes for capital that they require and run the liability in that shape, and subsequently fund it into bonds or stock by consent of the Commission?

A. I have no reason to differ with you.

Q. Now you have said in your testimony that the total amount of the Consumers' Deposits, Notes Payable and Unpaid Bills of these four companies in Massachusetts was $852,249.94. And you have subtracted from this floating liability $637,165.66, leaving only $215,084.28, which you have considered working capital?

A. Pardon me, the active capital.

2564 Q. Active capital?

A. Furnished by the stockholders.

Q. Well, I understand; it is furnished by the stockholders, we will

say. But is not capital which is procured on notes in the market for the purpose of the operations of the company and used in the business of the company working capital just as much as though stock was issued and the money was put in by the stockholders?

A. It is undoubtedly a working capital required by the business, but it differs in its characteristics from the permanent active capital furnished by the stockholders who are not in a position at any time to demand its return.

Q. That may well be. But assume that a company requires a million dollars in cash working capital and instead of issuing a million dollars in stock and taking the money from the purchasers of the stock, it issues a million dollars in notes and borrows that money from banks on the open market. Is not that working capital equally as much, whether it came from one source or the other, so long as the company retains it and uses it in its business?

A. It is money used for working capital, but not money invested by the stockholders as active capital for the purposes of the company.

Q. But it is money invested in such a way that the company is entitled to a return upon it, is it not, because the company has to pay for the use of the money that is procured, whether it procures it from the stockholders or a bank?

A. I have but related the facts as shown in the accounts of these companies given to the Massachusetts State Commission, and to me it appears to be money borrowed, rather than money invested.

Q. But, Doctor, you have gone further than that and have made these deductions and have taken the $215,084.28 which is left and have said that that represents only 13 cents per thousand feet
2565 of active capital, and have then taken that as a basis upon which you have allowed the Consolidated Gas Company $1,726,000.00 of cash active capital beyond its plant, instead of the $4,000,00 which Dr. Humphreys testified was correct. Now I am asking you whether these deductions are proper, and for that purpose I am asking you whether the money which is borrowed on notes payable and which the company has to pay for and which money is used in its business, is not active or working capital or asset, whichever you please to call it, just as much as though the stockholders themselves had furnished that money and stock had been issued for it? Now, won't you give me an answer to that directly? Is it not?

A. It is, from my point of view and as related in the accounts, money borrowed.

Q. Yes, it is money borrowed as related in the accounts, but that is not the question. Won't you be good enough to answer my question?

A. The question should more properly be answered by the officials of these companies as to the point of view from which they regarded this money borrowed. Anything on my part would be a theory.

Q. It is not the officials of the company who have deducted those notes payable from the total of $852,249.94. You have deducted that upon some theory. I do not care what the theory of the officials

of the company is. I want to ask you whether that is not just as truly active working capital, when it is furnished by a bank and borrowed on notes and is actually used in the business of the company, as though it had been furnished by stockholders and stock issued for it? Now, won't you answer that, either yes or no, is it not capable of such an answer?

A. No. I can explain, if you wish me to qualify it.

Q. Is your answer no?

A. With a qualification, which is at your service if you desire it.

2566 Q. Very good, go ahead if you will, Doctor, and explain.

A. In taking up the Massachusetts companies I have related but the fact as to what the Massachusetts gas companies spoken of have found necessary in the form of active capital subscribed by themselves to conduct their business, and that amount is $215,084.28, slightly less, I presume, by about $2,000, owing to an oversight in the Fall River Gas Company, making in round figures $213,000.

Mr. BURR: When you refer to the oversight in the Fall River Gas Company, you mean the item of $429.95 which should be $2,193, of Consumers' Deposit?

A. I do. That is what is demanded by the necessities of the case, and what these gentlemen, knowing their business thoroughly and undoubtedly working it to the uttermost profit that they can reach, have been forced to put up.

Q. I will ask you again, Doctor, assuming that a company has a plant ready to operate or in operation and that it requires a million dollars of cash in addition as a working capital, and it issues its notes payable and procures that one million dollars from banks or on the market, for which it pays, is not that working or active capital employed in the business of the company, assuming those facts to be true?

A. It is impossible to answer a question that is a generalization. I can answer it specifically and have done so.

Q. I am putting a hypothetical question and will ask you to answer the hypothetical question. We will assume that a gas company in the town of A has a plant that is in operation, that it has no cash on hand sufficient for working capital; that it requires a million dollars reasonably for that purpose and that it borrows one

2567 million dollars by its notes payable and runs those notes payable along from time to time as it pleases, and that it pays interest on that million dollars, and that it uses the million dollars necessarily in the operation of its plant as working capital; is not that million dollars, then, working or active capital upon which the company is entitled to earn a return?

A. That, of course, is purely an academic discussion of a theory which is not realized in practice, as shown in the case of these Massachusetts gas companies; but, I presume, being answered as a baseless theory, it might be called a theoretical working capital.

Q. Now, Doctor, is it not the use that is made of money in the business of a gas company or the question whether it is necessarily

or reasonably used in the business of a gas company, which makes that working or active capital, and not the source from which the money is derived?

Mr. BURR: Do you refer to consumers' deposits?

Mr. MATHEWSON: I have asked him a question which I think is perfectly clear.

A. Will you kindly read that question over?

(Question read by stenographer.)

Q. Is not the governing factor, in other words, the use that is made of the money, and not the source from which it comes, which determines whether it is active capital or not?

A. In the case of an individual——

Q. Will you not answer in the case of a gas company? That is what I am talking about.

A. Or as differing from the case of a corporation, it might be called working capital; but the thought evidently conveyed by working capital in the case of a corporation is the amount of
2568 money found necessary to be raised through stocks or bonds for the general uses of its business.

Q. I am not talking about the paper or the form of the paper that is issued as evidence of the money received; I am talking about the money as an asset. Is not the question of whether the money is an asset upon which the company is entitled to earn determined by the use which is made of the money received or its necessity to the company, and not by the source from which money is received?

A. The company is justly entitled to earn upon the balance which occurs between the money that it obtains from the sources shown on page 2355 and the amount that it appears to have obtained in the form of cash by other means. The company is not——

Q. Well, if it requires to use then the amount, and does use its consumers' deposits, the amount received from notes payable and the amount represented by unpaid bills in its business necessarily, then they are part of the assets of the company upon which it is entitled to earn, is that not correct?

A. Kindly read that question.

(Question read by the stenographer.)

The WITNESS: Kindly read that again.

(Question read by the stenographer.)

The WITNESS: No.

By the MASTER:

Q. Now that is what I want to know. Why not?

A. If a company can defer the payment of a bill for meters for an indefinite length of time, and it very frequently is done where its credit is very good, it certainly is not entitled to earn a profit on money which it has not paid, even though the amount of the
2569 meters appears on the books, as it naturally would be put there on the receipt of the invoice.

By Mr. MATHEWSON:

Q. Well, we will eliminate unpaid bills, which amount to a trifling part of this $852,249.94, to wit, $13,580.92 plus $8,270, and I ask you the same question as to consumers' deposits and the moneys received from notes payable?

A. Referring particularly to consumers' deposits, this is of the nature of an insurance fund of very great value indeed to the company, particularly where there is, as in some cases, a very large amount of unreliable consumers. It is this insurance which they get from it that should more than compensate them for any interest which they may pay on it.

Q. In other words, they ought to pay interest on consumers' deposits, and not be permitted to earn on the deposits that they hold. Is that your theory?

A. Well, it may not be—in a general way, I should say yes.

Q. Then if the amount of money which the company received from the consumers as deposits is used by it as working capital the company is not entitled to earn anything on those consumers' deposits, although it would have been entitled to earn, if it had procured the same amount of money upon its notes from a bank or the same amount of money from the stockholders by the issue of stock and used it in the same manner; is that your theory?

A. We have not had the opinion of an insurance man, an accident insurance man, for instance. The question of the payment of interest, say of six per cent., would depend entirely, taking for instance the case of the Consolidated Gas Company, on what amount, if you had no consumers' deposits, some solid insurance com-
2570 pany would insure you against loss from all of your doubtful consumers.

Q. That has nothing to do with the point. I say if you have a certain fund, we will say one million dollars in cash, which has been received by the company as consumers' deposits, and the company uses that one million dollars in cash as necessary working capital, is it your contention that the company is not entitled to earn anything on that one million dollars which it uses as working capital because it came from consumers' deposits, whereas they would have been entitled to earn upon one million dollars used in exactly the same way if it had been borrowed by the company at a bank or had been furnished by the stockholders of the company and stock issued for it? Now, that is a fair question and I think it is clear, and I will ask you if you will not answer it directly.

A. I will answer it very briefly. I regard it as an insurance fund and the interest on it as a premium.

Q. Then the company would not be entitled to earn in that event on the money that it used as working capital merely because it was really a fund which was constituted by consumers' deposits, is that right?

A. I could give you a concrete case, in the case of the Consolidated Gas Company, if you like.

Q. No, I don't want a concrete case. I am asking you what your opinion is, because it bears directly upon your testimony given here.

Mr. BURR: He has expressed his view as to that.

Mr. MATHEWSON: I think the Master will rule that I am entitled to an answer.

Mr. BURR: He already stated how he regards consumers' deposits in practice——

The MASTER: He may answer it.

2571 Mr. BURR: Will you read the previous question and answer?

(Question and answer read.)

Mr. BURR: That is a complete answer.

The MASTER: I think he can answer that question. It is a perfectly simply question.

A. Would you kindly ask me any question you please, Mr. Master? I am anxious to answer it.

Mr. MATHEWSON: I have asked a question of Dr. Marks.

The MASTER: The question that Mr. Mathewson has asked is perfectly plain, I think.

The WITNESS: It seems to me exactly the same question I answered before. That is the trouble with it.

Mr. MATHEWSON: It is a question calling for an answer yes or no.

The MASTER: It puts you face to face with the result of your previous answer, that is all.

The WITNESS: Will you repeat the question?

(Question read by stenographer.)

Mr. BURR: Insurance fund, you mean?

Mr. MATHEWSON: I did not say insurance fund. I said a fund.

The WITNESS: The company which should——

Q. Can you not give me an answer yes or no to that?

A. No.

Q. You cannot answer that?

A. It is not entitled to earn. Is that what you want?

Q. Yes. It is not entitled to earn?

A. It is not entitled to earn.

Q. Then the company is bound to pay six per cent. to

2572 consumers and is entitled to earn nothing with which to pay that six per cent. Is that right?

A. Do you mean in this case?

Q. I mean in the case of the Massachusetts companies.

A. I don't know that they pay six per cent.

Q. Well, assuming that they do, what then?

A. It is not necessary for me to assume that they do.

Q. Yes, I think I am entitled to ask you, assuming that they pay interest on consumers' deposits, do I understand that they are not entitled to earn anything on that?

A. I should wish to know how much interest they have to pay on consumers' deposits before I answered that question.

Q. Assuming that they pay interest on consumers' deposits in Massachusetts, do I understand it to be your opinion that those four

companies would be entitled to earn nothing on the deposits which they hold?

A. I had assumed that they did not pay interest, and if they did pay interest of a very considerable amount I presume some proper allowance ought to be made in the way of earnings.

Q. But if they use the fund as working capital, which working capital they would be obliged to procure from another source if they did not receive it from consumers' deposits, they would not be entitled in your view to earn on that working capital, is that right?

A. The question of earning——

Q. Can you not answer that question and say either yes or no to it, or in substance that? I want to get an answer and I am wholly unable to.

Mr. BURR: If you cannot say yes or no, explain it.

The WITNESS: Will you read that question, please?

(Question read.)

The WITNESS: Can you give me some concrete case?

2573 Q. No, I am asking you a question to test your theory. I am trying to find what your theory is about this?

A. I have no theory.

Q. You put one into execution in making your deductions here and I am testing it.

A. My deductions were for the purpose of obtaining the active working capital required.

Q. I think the Master will instruct you that I am entitled to ask a hypothetical question of that kind. If I am wrong, he will correct me and if I am right I will ask you if you will not answer the question over again?

Question read as follows:

"Q. But if they use the fund as working capital, which working capital they would be obliged to procure from another source if they did not receive it from the consumers' deposits, they would not be entitled in your view to earn on that capital, is that right?"

The WITNESS: What fund do you refer to?

Q. Does the question not indicate sufficiently? Will you read it again?

(Question read.)

Q. I refer to the fund constituted by the consumers' deposits that we have been talking about all the time?

A. Will you kindly read that question again?

(Question read.)

A. No.

Q. Well, would they be entitled to earn if they used it as working capital?

A. My answer was no.

Q. Then your view sums up as follows, if I understand you, that if a company receives consumers' deposits and pays interest

2574 upon them, it is probably entitled to earn something on the consumers' deposits to meet the interest, except that if it uses the consumers' deposits as working capital, in that event, it is not

entitled to earn anything on the consumers' deposits to pay the interest, is that correct?

A. No, you have mixed that up very badly.

Q. I have.

A. Yes.

Q. I am inclined to think you have mixed it, because I have quoted you directly from what you said, that if the company received consumers' deposits and paid interest on them, that it would be probably entitled to earn something on them in order to meet the interest payable to consumers, *did* you not say that in substance a few moments ago?

A. What I undertook to say——

Q. Didn't you say that in substance?

A. What I undertook to say, and add to it, was that if it did not receive interest, it was entitled to consideration.

Q. We are assuming that it did receive interest, and you did say that then. Now, you say they are not entitled to earn anything on it, however, if it is used as working capital?

A. I beg your pardon. If there is no interest paid on consumers' deposits. I may not have made myself sufficiently clear.

Q. No, I don't think you did, if that is your explanation.

A. It is difficult to follow your questions.

Q. I am sorry. Then your view now is that if interest is paid on consumers' deposits, you are entitled to earn on the deposits by the use of the funds even as working capital, if the company requires capital, and is able to use the fund in that way, is that correct?

A. If you will give me any concrete instance and figures which I have stated, I will be glad to answer.

Q. No, I will not give you a concrete case, *will* you be good
2575 enough to answer the question?

A. Will you read the question?

(Question read.)

The WITNESS: Where interest is paid on consumers' deposits, it should have consideration in the matter of earning.

Q. Well, the Consolidated Gas Company, it is in evidence, does pay six per cent. on consumers' deposits. Then so far as the consumers' deposits of the Consolidated Gas Company are concerned, it is entitled to earn on consumers' deposits, is it not?

A. Something less than the interest paid on account of the insurance effected.

Q. I will touch on that later, but it is entitled to earn on consumers' deposits whether it uses the consumers' deposits as working capital or uses them in some other way to produce an earning on such deposits, is not that right?

A. Apparently.

Q. Then, so long as the Consolidated Gas Company does have to pay, in making your computation as to the amount allowed to the Massachusetts Gas Companies per thousand, for working capital, which computation you made for purposes of application to the case of the Consolidated Gas Company of New York, ought you not to have included consumers' deposits instead of excluding them?

A. I made the comparison for the sake of the capitalization, confining myself solely to that matter of the capitalization, and not to the question of earning.

Q. You made your computation for the purpose of showing the amount of working capital beyond plant to which the Consolidated Gas Company was entitled, didn't you?

A. Exactly.

Q. And if it appears that part of the Consolidated Gas Company's working capital is consumers' deposits, then you should have
2576 included consumers' deposits in making the comparison in computing as to these four Massachusetts companies, should you not?

A. In the case of these companies?

Q. Yes.

A. Not necessarily, because I was relating the facts as to capitalization, and not as to earnings.

Q. But it does appear, does it not, and you state here that from the working capital, $852,249.94, you deduct floating liabilities amounting to $337,165.66?

A. You should add about $2,000 to that.

Q. And you define the total sum $852,249.94 as working capital?

A. Yes, but not the active working capital furnished by the stockholders.

Q. No, not furnished by stockholders, but working capital. I make no distinction in that regard, and don't think any is to be drawn. Now, as to your insurance fund, as a matter of fact you have made no question that the amount of bad debts of the Consolidated Gas Company is a proper charge against the operating cost of gas, have you?

A. The bad debts?

Q. Yes. You allow them as a proper charge against the cost of gas?

A. I have allowed those as all other accounts, as a doubtful matter.

Q. Oh, have you heretofore specified that the amount of bad debts is a doubtful matter to be allowed in estimating the cost of gas?

A. All of the items of Exhibit 94 are clearly classified, first, as those obviously to be rejected, and secondly, as those doubtful.

Q. All the rest are doubtful?

A. Yes.

Q. I see. Now, assuming that it is established that the bad debts did amount to the sum specified, and assuming that to be the fact, as shown on Exhibit 94, then you do not question the proposition that the bad debts of a company which it incurs in the pru-
2577 dent conduct of its business, is a charge against its operating cost, do you?

A. I presume if thoroughly satisfied of the proper and vigorous management of the company in the matter of debts, that any small residue of bad debts ought to be allowed to them.

Q. Don't you know, if you have read the testimony before the Stevens Committee and before the Gas Commission, that no witness,

not even Professor Bemis, questioned the propriety of charging the amount of bad debts to operating cost of gas?

A. Under the conditions stated by me, I would do the same.

Q. Then, if the Consolidated Gas Company, or any other gas company, did not receive consumers' deposits or exact consumers' deposits, it would be quite likely, would it not, to increase the amount of bad debts which would be uncollectible?

A. I presume so.

Q. And in that event it would increase the cost of gas by the amount of those additional bad debts which would thus be produced, would it not?

A. I presume that there would be increased bad debts.

Q. Then this insurance fund, as you call it, that is the consumers' deposits, is as much to the advantage of the consumers of gas, in order to reduce its cost, as it is to the company; in fact, more so, if the amount of bad debts is to go into the cost of gas and the company is to be entitled to earn a fair return upon the cost of gas. Is not that a fair proposition?

A. Well, yes, it certainly is advantageous to insure themselves in every way, not only in the matter of bad debts, but also in the matter of buildings, and against all the accidents that occur.

Q. And any payment for insurance, in whatever form the corporation makes it, is a proper charge in the operating cost of its product, is it not?

A. Well, that depends entirely upon what the insurance is for.

2578 Q. Is there any question that the amount that the company pays for the insurance of its buildings is a proper charge in the operating cost of gas?

A. I recall an item of about $52,000 of insurance in Exhibit 94, unless I am very much mistaken, which appears to me to be an enormous sum of money for insurance.

Mr. BURR: And you remember that we called for the policies and they were never produced?

The WITNESS: Yes.

Q. We are assuming that the amount paid by the company for insuring its buildings is a proper and reasonable amount. Is there any question that it is entitled to include that payment under those circumstances in the price of gas?

A. It would appear proper in a properly managed company, carefully insured.

Q. Furthermore, is it not also true that if the company did exact consumers' deposits that not only would the bad debts be increased, as you have admitted, but that the cost of collection would probably be considerably increased as to the amount which the company did collect?

A. Of course one has to know—the difficulty which I have in answering you and I wish to answer you clearly—lies in the fact that you are putting hypothetical and not concrete cases. Taking the consumers' deposits here in Massachusetts you will find that they are all relatively very small apparently little difficulty arising from the

collection of bills. And it may be and possibly it is true that in the $904,000 of the Consolidated Gas Company a sum is exacted out of all proportion to the doubtful and irresponsible consumers.

Q. That may or may not be true, but I do not think that affects the proposition that we are now directing our attention to.

2579 Will you now tell me how the Gas Commission of the State of Massachusetts regards notes payable such as you have specified for Cambridge, Fall River, Lowell and Worcester gas companies, as part of the capital or not?

A. I don't know.

Q. Let us see if we cannot find out. Have you a copy of the report from which you have been quoting, and, if so, will you turn to page 116? There is a table from which you have taken the sales of gas which you have used in your computation, is there not?

A. Yes.

Q. Now, will you take the Cambridge Gas Company? What is stated under the heading: "Capital per thousand sales, including bonds"?

A. $2.52.

Q. Now, will you turn to the page of that report which shows the capital stock of the Cambridge Gas Company?

A. Will you give me the page?

Q. Page xxvi.

A. I have it.

Q. What is the capital stock of the Cambridge Gas Company?

A. It appears to be $880,000.

Q. Will you then add to that the amount of the notes payable of the Cambridge Gas Company which you name at page 2355 of the present record to wit, $225,000, and now will you tell me what the total of those two amounts is?

A. $1,105,000.

Q. Now will you divide $1,105,000 into the amount of sales for Cambridge, to wit, 439,162,251 feet shown on the table at page 116 of the report and see whether that does not give the $2.52 with which we started?

A. I am perfectly willing to accept those figures as their statement of gas sales.

Q. Yes, but I am asking you if you won't divide the amount of sales by the $1,105,000 which includes both the capital stock and the notes and see if the result is not $2.52 with which we started?

A. The total gas bill is given as 439,162,000, is that it?

2580 Q. Yes, 439,162,152 feet, to be exact. I ask you to divide the total amount of $1,105,000 by the sales?

A. It appears to be about $2.51 here.

Q. Well, $2.52 about.

A. Yes, $2.51 and something over.

Q. If you want to compute it over again and see if it is $2.52; please do so.

A. Well, it is near enough that way.

Q. All right. Then it appears that the Massachusetts Gas Commission must have included this $225,000 of notes payable of the Cambridge Gas Company that you state at page 2355 as part of the

capital of the company in order to get the result $2.52 per thousand feet of gas sold at Cambridge, does it not?

A. It would appear as if they called the notes payable bonds drawing interest, from that computation.

Q. In other words, they would include it under the title, "Capital including bonds"; that would be it, wouldn't it, because $2.52 appears under the caption, "Capital per thousand sold including bonds"?

A. Of course, they have made an error in their statement here and there maye be—I have not had a chance to look into the figures thoroughly—and there may be an error on their part in figures as well as in words.

Q. Oh, but this is the Gas Commission's report from which you have been making all your computations? You do not assume that is error, do you?

A. Indeed, they are very fallible.

Q. Then it is too bad you use it and compel us to take all this time.

A. It is the best I could get.

Q. Now, take the Fall River Company under the head of "Capital per thousand sold, including bonds," at page 116 of the Massachusetts report, and you find, do you not, $2.54?

A. $2.54; yes.

Q. Now, look at page 52, Roman, in this report, and state what the capital stock of the Fall River Company is.

A. $635,000.

2581 Q. Will you now add to that $635,000 the amount of notes payable which you have specified for the Fall River Company at page 2355 of the present record, to wit, $180,000, and say what total that gives?

A. $815,000.

Q. Will you now be good enough to divide the $815,000 by the gas sales which appear at page 116 of this report, and which you have used, to wit, 321,119,341 feet, and see if it does not give $2.54 as a quotient, being the figure with which we started?

A. It would appear to me in both of those cases of the Fall River and the Cambridge Gas Companies that the Massachusetts Gas and Electric Light Commission or the statistician had included notes payable without so saying under the tabulation on page 116. Now it does not necessarily follow that that is any more than their opinion or the opinion of the statistician.

Q. It purports to be the 21st annual report of the Board of Gas and Electric Commissioners of the Commonwealth of Massachusetts, doesn't it?

A. Yes.

Q. You don't find anything there about it being the report or opinion of the statistician, do you?

A. No, but I happen to be aware of that fact.

Q. Have you any reason to suppose that that method of computation and the inclusion of these notes as part of the capital of these companies is not the judgment of the Commission?

A. I take it for granted that it would not call notes payable bonds if they were aware of that fact.

Q. You think, then, that for years and years they have pursued this course, having been deceived by their statistician, and have computed year by year the amount of capital per thousand feet sold without ever having discovered that the notes payable were included as part of the capital of the company in making that computa-
2582 tion, is that what you suppose?

A. I have no opportunity to form an opinion on that elaborate statement of yours.

Q. You formed an opinion a moment ago, when you said you thought that it could not be aware that the notes payable were included in the capital. Now, do you really mean to say that you think the Gas Commission of Massachusetts are not aware that the notes payable are included in the capital of the company by them?

A. I have no basis on which to form an opinion.

Q. Well, then, I would not express one to the contrary. Now, by taking the Lowell Company and the Worcester Company in exactly the same manner, I have made a computation which discloses that $75,000 of notes payable of the Lowell Company shown at page 2355 and the $95,000 of notes payable of the Worcester Company shown at page 2355 of the present record are also included under the capital of the company, pursuing exactly the same method. Do you wish to compute that, or are you willing to take my statement of it and verify it?

A. For the present it is not worth while losing time; it is obvious in two cases that that has been done.

Q. Well, I state I have made a computation in exactly the same way, and find in exactly the same manner that those notes payable have been included in the capital by the Commission, as relating to the Lowell and Worcester companies.

A. Yes, I will look it up later, at some other time.

Q. And if you do not hear to the contrary, you will accept our statement as a fact, will you?

A. Why, yes; certainly, if I don't find anything further.

Q. Now, we will disregard the question of consumers' deposits and unpaid bills for these four companies, and I will ask you how much of the $852,249.94 remains as working capital after deducting
2583 consumers' deposits and unpaid bills and leaving only the notes payable? In other words, the same result would be obtained by adding to the $215,084.28, which you found to be the balance——

A. Would it be satisfactory to you to add together the notes payable?

Q. Yes, any way you please. Add those, and add that to the $215,084.28. That is a short way of getting it.

A. That seems to be about $575,000.

Q. Well, will you now add that to the $215,084.28 active capital that you specified on page 2355 of the present record, in which you did not include these notes payable?

A. That appears to be $790,084.28.

Q. Now, will you be good enough to divide this total of $790,-

084.28, which appears to be the active capital recognized by the Boston Gas Commission, by the total annual sales of 1,653,012,000 feet of these four companies?

A. Would $0.48 be near enough for you?

Q. Yes, that is near enough; it is a trifle below $0.48. Now, if you include these notes payable, as the Massachusetts Commission does, would it show an active capital not of thirteen cents per thousand, but of forty-eight cents per thousand? And will you multiply those forty-eight cents by the output of the Consolidated Gas Company, 13,283,164,000 feet, and say what working capital it would produce for the Consolidated on that basis?

A. Do you mean working capital or capitalization?

Q. Whichever you meant when you applied the thirteen cents the other day?

A. I meant the capitalization allowable.

Q. Very good.

A. Do these figures coincide with those—$6,375,918?

Q. My figures on this are a little less than that. It is about $6,350,000. I think you had better perhaps make your——

A. I took——

Q. The total is $6,375,918.52 as you figure it?

A. Yes, sir.

2584 Q. Was that including the notes payable which you denominated at page 2356 of the present record as "Active Capital Furnished, or Quick Assets" would be $6,375,918.52 in place of $1,726,811.32, upon that basis, is that right?

A. No, it would be that the working capital to correspond *pro rata* with the views of the Massachusetts Gas and Electric Commission would be $6,375,918.52, and not the active capital furnished by stockholders.

Q. Well, whichever you please, I don't suppose you know, Doctor, whether these notes payable represent monies advanced by stockholders or monies advanced by other people?

A. Banks.

Q. But you have no information in this regard particularly?

A. Only casual information in regard to the banks. I have heard the remark made that banks are very glad to furnish money to gas companies.

Q. Oh, they always are if they get good security, even to the Consolidated Gas Company; but as the Massachusetts Gas Commission permits the issue of stocks and bonds only for established expenditures or expenses which have been or can be certainly computed, you know, do you not, that the companies there get their money on notes payable very largely, and then apply to the Commission after they have determined the amount required and have obtained it to put it into the shape of stocks and bonds, and in that event it would be more probable, would it not, that the stockholders would advance the money than it would be if they did not expect to convert it into stocks and bonds later by consent of the Commission? If you are indulging in assumptions, wouldn't that be a fair one?

Mr. BURR: I do not think that is an assumption worth while wasting time on. I think it is the merest kind of guessing.

2585 Mr. MATHEWSON: I don't know that I shall dispute it. I don't know that it makes the slightest difference.

Q. Now, in your original affidavit on the motion here you included in a somewhat similar computation not only these four Massachusetts companies but also the Brookline company, which is one of the Boston or Metropolitan Gas Companies, did you not?

A. Referring to my first affidavit?

Q. Yes.

A. On page 16?

Q. I merely ask you whether you did?

A. I included the Brookline Gas Company.

Q. I suppose you have read the rebutting affidavit of Mr. Addicks?

A. I have.

Q. In that affidavit, at page 44, he called attention to the fact that in the case of the Brookline Company you had entirely omitted part of the capital, to wit, outstanding bonds and other capital obligations amounting to over $2,000,000, exclusive of capital invested in the electric plant belonging to the company, and that the capitalization of the Brookline Company, which is one of the five companies that you mentioned operating in the City of Boston, under metropolitan conditions, was equal to $4.60 per thousand feet of sales instead of $2.18, as stated by you. Did you make an examination and discover that $2,000,000 to which he referred?

A. It was a case in which I was discussing the dividends on capital stock regardless of other matters, and the result of taking their capital stock and dividing it by the annual gas sales in cubic feet was $2.18. It was for the purpose of considering dividends only on stock and average rates of dividends in Massachusetts.

Q. But didn't you in that computation omit any consider-

2586 ation of this $2,000,000 to which he calls attention?

A. Do you mean the $2,000,000 in bonds?

Q. Yes.

A. I purposely omitted that. It had nothing to do with dividends on stock.

Q. Doesn't it have something to do with the amount left for dividends whether you pay interest on bonds or not?

A. I was simply citing facts as precedents in Massachusetts.

Q. Have you a copy of the 1905 report of the Massachusetts Gas Commission?

A. Yes, but I think those figures are from 1904, if you wish that.

Q. You did not include in the capitalization in determining how much per thousand feet that represented in the case of the Brookline Company, then the two million dollars which the Massachusetts Gas Commission apparently includes in the capital?

A. No, I did not.

Q. Have you any doubt, if that were included, the result would be $4.60, as specified by Mr. Addicks, or haven't you computed that?

A. I did not compute that, because Mr. Addicks misunderstood the object of my figures I found, and it was merely to take the

amount of capital stock and show the dividends, rate of dividends on it, which in this case happens to be ten per cent.

Q. Was your purpose then merely to show in this table at page 16 of your affidavit the amount of assets per thousand feet which was represented simply by share capital, excluding entirely bonds and other forms of capital?

A. On page 24 of the appendix, Roman numerals, for 1905, Massachusetts Gas and Electric Light Commissioners, under the head of liabilities, is "Capital stock, two million dollars." This is reported by the company themselves.

Q. Oh, yes, capital stock; that means share stock, you understand it?

A. That is what I was seeking, the term.

2587 Q. Now, considering the fact that some gas companies have outstanding perhaps all capital stock and no bonds, and other companies have outstanding a small amount of bonds and a larger amount of capital stock, and still others may have outstanding a substantial amount of bonds and a small capital stock, the securities in each case representing the assets of the companies, do you think it is valuable to show how many dollars per thousand feet of cost is represented by capital stock only as distinguished from all capital obligations such as stocks, bonds and notes payable?

A. When ten per cent. dividends are under discussion, which was the case here, that was the object.

Q. That was the sole object, then, of this table?

A. It was the principal object.

Q. It would make a great difference, would it, if half of the capital of the company were in the shape of bonds and one-half in the shape of stock, as to the amount of earnings that the company would be permitted to make upon its assets as compared with a company all of whose assets were represented by the capital stock?

A. You mean the rate of dividend?

Q. I said the earnings of the company.

A. Will you repeat the question?

The STENOGRAPHER (reading): "It would make a great difference, would it not, if half of the capital of the company were in the shape of bonds and one-half in the shape of stock as to the amount of earnings that the company would be permitted to make upon its assets, as compared with a company all of whose assets were represented by capital stock?"

A. Permitted by whom?

2588 Q. Oh, permitted by the Legislature, or by the Commission, or whoever might have it in charge. In other words, assuming that a company has assets or investment of a certain amount, or that two companies have investments of exactly the same amount in the gas business, are you going to determine the amount of earnings that the company is going to be permitted to make on its investment, by seeing how much of those assets are represented by capital stock and how much by bonds in each case?

A. Were I to determine the earnings or profits of a company, I should pay no attention to either the stock or bonds. I would find out the actual structural cost, and put a fair profit on that.

Q. Precisely. Then, we have no dispute on this, that the actual value or actual structural cost of whatever may be the proper basis to proceed upon is what we have got to take in determining the return which a company is entitled to, and not the amount of paper it has outstanding or the shape of that paper?

At this point, 1:00 p. m., a recess is declared to 2:15 p. m.

2589 After Recess.

WILLIAM D. MARKS resumes the stand.

Cross-examination by Mr. MATHEWSON (continued):

Q. Doctor, in getting your $2.18 per thousand feet for the capitalization of the Brookline Gas Light Company, in your affidavit you say you took merely the share capital stock for a divisor. Do you know that part of the property of the Brookline Gas Light Company was an electric plant, which appears by the report of the Gas Commission to amount to six hundred thousand or seven hundred thousand dollars?

A. Not only did I know that, but I also knew the fact that it largely produces gas, and for that reason left out the dividend per thousand, not including it in the computation.

Q. Yes, but in getting your $2.18 you divided by the entire share capital stock and not by a portion of it, didn't you? I am simply talking of the share stock capital, whether you did not divide by the entire amount of the outstanding share capital of the Brookline Company, to get even your $2.18 you divide by two million dollars, that was the entire outstanding capital?

A. Yes. I did so and then made no further use of it, as you will observe, because I had not given the dividend per thousand cubic feet, except that afterwards in adding up, $2.18 being the largest, with the exception of the Lowell Gas Light Company, I added it in to give good measure in the average.

Q. You did not give any data as to capitalization per thousand of sales or capitalization or assets per thousand of capacity relating to the Boston Consolidated Gas Company did you?

A. I did not.

Q. Do you remember the testimony of Professor Bemis be-
2590 fore the Gas Commission that the conditions in Boston were more nearly like those in New York than any other large city?

A. Are you referring to the Boston printed testimony?

Q. I am referring to the testimony before the Gas Commission which you say you read?

A. In Boston?

Q. No, the Gas Commission in New York. Don't you recall my asking him that question and his replying in substance as I have stated?

A. I would not answer definitely on that point because I probably would not really be much affected by a general statement of that sort, a statement made by anybody.

Q. But you do know that Professor Bemis testified in 1905 and 1906 in the Boston Investigation and that he testified there previously, and that he made a careful study of Boston conditions, do you not?

A. I have been so informed.

Q. And wouldn't you consider that his statement if it was made to the effect that the conditions there were more similar to New York than conditions in any other large city with which he is familiar would be entitled to some weight?

A. Why, yes.

Q. Now, as a matter of fact, the Boston Consolidated Gas Company has several plants or stations representing their original companies, hasn't it?

A. Yes.

Q. In that respect it is very similar to New York, is it not?

A. Well, I cannot say because I have made no study of it.

Q. Don't you think that would be more nearly a similar condition to New York than it would be to take four widely separated companies like Cambridge, Fall River, Worcester and Lowell?

A. As to what?

Q. As a comparison with New York?

A. As to what particular?

2591 Q. As to the comparisons which you made?

A. You mean in actual structural cost?

Q. Yes, in comparisons which you made.

A. In the actual structural cost where accessible I would have been very glad to have taken the matter up if I had had the time.

Q. But you say you read the testimony before the Gas Commission of New York and all those figures as to the cost appear there, do they not?

A. No, not in such detail as given by the Massachusetts Commission.

Q. Well, you know the Corporation Counsel of the City of New York, with whom you are conferring, has the entire record of the testimony in Boston before the Gas Commission there, as well as in relation to the Boston situation, do you not?

A. I do.

Q. Do you know that an appraisal of the property of the Boston companies was made about 1904 or 1905 by experts, the city having a representative present, as Professor Bemis testified?

A. By what expert, may I ask?

Q. I didn't say. I said by experts.

A. I do not.

Q. You didn't know that any appraisal of the property of those companies was made preliminary to the consolidation which the legislature authorized?

A. I knew that an appraisal was made.

Q. Isn't it a fact that the appraisal referred to the valuation of property, the amount running to something like twenty-four millions for the Boston companies?

A. Appraised by whom?

Q. The appraisal to which I have referred in 1904 and 1905 preliminary to the consolidation—there was only one that I know of.

A. I should like to know who made it.

Q. Well, I cannot gratify you at the moment. I merely ask you the question.

2592 By the MASTER:

Q. It is not a question whether or not that was a correct appraisal. It is simply whether or not you knew an appraisal was made at or about that amount.

A. An appraisal was made or claimed to be made in Boston.

By Mr. MATHEWSON:

Q. And don't you recall or isn't it your information that the amount of that appraisal was about twenty-four million or twenty-five million dollars?

A. Am I at liberty to ask by whom?

The MASTER: It does not make any difference; that is not the question. It might have been made by me or anybody.

A. Not the accepted appraisal.

Q. Will you answer my question?

A. There was no appraisal accepted by the parties interested giving a value at twenty-four million or twenty-five million dollars.

Q. Will you look in the report of the Massachusetts State Board of Gas and Electric Light Commissioners at page 20, Roman, and see whether the total assets as per the books of the company do not appear there at $24,366,520.14 exclusive of a profit and loss balance of $79,053.11?

A. I see the following paragraph:

"Total assets as per books of the Company $24,366,520.14."

Q. That is the same kind of an account, isn't it, and presented in the same sort of a form as the statement of assets of these other companies, Cambridge, Fall River, Lowell and Worcester,

2593 respecting which you have testified from this same book?

A. Apparently.

Q. Well, now it appears that there are a few electric items there, which you will observe. Altogether they do not amount, do they, to more than a few hundred thousand dollars, if you will run your eye down them, certainly of less than a million dollars? My calculation is that deducting that the balance is $23,501,113; is that substantially correct?

A. That would appear about it.

Q. Now do you know what the sales of the Boston Consolidated Gas Company or of the constituent companies of which it is composed were at the time of the consolidation?

A. I could not give those without referring to the statement made of the investigation.

Q. Isn't it your recollection of the examination of the testimony before the Gas Commission and from Professor Bemis' statement that the sales were about three billion feet at that time?

A. I have a very clear recollection of Mr. Addicks making that statement, that is was three billion feet.

Q. If that be true, then this $23,501,000 would represent assets of nearly $8 per thousand cubic feet of sales, would it not?

A. Yes, I should say about that.

Q. And will you look now at page 114 of the Massachusetts Commissioners and say what the daily capacity of the works of the Boston Consolidated is stated to be?

A. 28,000,000.

Q. I think, Professor, that that includes the capacity of the New England Coal & Coke Company which does not put out any gas, but waiving that for the time being and assuming that capacity to exist would it be indicated as to assets per thousand feet of capacity upon the same basis as you testified as to the four other Massachusetts companies?

2594 A. That is, to divide by sales of gas, do you mean?

Q. Well, the same way you have computed with reference to the other four companies. You have the same data in reference to the Boston Company exactly as you have with regard to the other four companies.

A. I have not got the structural assets for the Boston Company out. I refer to page 2,351.

Q. Well, what do you include in the term "structural assets," if I understand correctly?

A. For instance, on page 2,349, real estate, machinery and manufacturing appliances, street mains, meters and office furniture.

Q. I see.

A. I can work that out if you give me all the time that is required.

Mr. BURR: Work it out.

The WITNESS: I have run it through and make it $22,632,663.09. I have taken one-half of the office furniture and one-half of the printing plant as justly chargeable to the gas as well as to the electric plants.

Q. I think that is a little excessive, in view of the fact that the electric assets are a mere fraction of the total business, but go ahead on that basis and we will see where we come out.

A. Making the computation as you request, the result is as follows:

Real estate for gas	$6,750,000.00
Mach. & Mfg. Apparatus	4,430,790.52
Street mains, gas	9,003,050.77
Services	1,250,210.59
Meters	1,177,210.17
Office Furniture (½)	17,897.85
Printing Plant (½)	3,503.19
Total	$22,632,663.09
Daily capacity stated	28,000,000.00

2595 Dividing this 28,000,000 into $22,632,653.09 you obtain $808.31. The apparent result from these figures, cost per thousand daily capacity $808.31, dividing by the capacity factor of apparent cost per annual cost, is $4.04.

Q. If you divide by all the gas assets instead of only by those which you have taken, I figure the capitalization per thousand of gas assets including horses and wagons and cash on hand and other items to be $4.20. Would that be pretty close to the facts, or do you wish to compute that?

A. I can compute that if you wish.

Q. Well, just as you please. You can verify it if you wish. You have already figured out the amount deducting the——

A. I am trying now to figure for you the active capital.

Q. Yes. Deducting the electric items.

A.—

Due for gas	$41,599.29
Gas Coal on hand	53,045.87
Coke on hand	4,901.27
Tar on hand	17,803.49
Enrichers	39,540.74
Purifying Material	16,892.75

Q. The next item, Other Gas and Electric Materials includes both, but I know of no other way than to take the proportion of that item which electric assets bear to the total assets or to gas assets?

A. Well, the amount of electric material on hand in an average station unless very well cared for amounts to considerable.

Q. Yes, but you must remember these are very small stations compared to the gas. You can assume any proportion you wish.

A. Have you any idea of the horse-power of the station?

Q. The capacity is 1,950 kilowatts.

A. Well, about $25,000 worth of material would be a proper allowance for about 2,500 horse-power.

2596 Q. Supposing you take $200,000 for the gas material. That will leave you $26,773.38 for the electric.

A. Stoves on hand $270,000. Horses, wagons, etc., would practically all be for the Gas Company I think.

Q. Yes, I think so.

A. $24,004. Total rated h[illegible]-power of the boilers is about 1,375 and engines 3,150; $26,000 is as near as you can guess, with the loose material lying around. Horses, wagons, etc., $24,004.

Q. You have given that.

A. I put all those down, but there may be a horse or wagon or two for the electric company. Sundry accounts due the company, how would you divide those?

Q. Well, the operating expenses for gas during that period were $92,000 and for electricity $3,900. It is only thirteen days, you see. What do you assume that to be?

A. Sundry accounts due the company.

Q. Yes.

A. I left you to figure on that. I put down about $17,500.

Q. Very good. Just say, assumed $17,500.

A. Out of about $20,000 is it not?

Q. I should think that would be possibly about fair.

A. Now, with regard to cash on hand.

Q. Well, that would be the same basis as the accounts due probably, one-eighth you took of the accounts due, substantially. Suppose you take one-eighth of the cash on hand for the electric.

A. That would leave about $110,000.

Q. Yes, I should think so.

A. Insurance. I have taken all the insurance since I left it out of the other one—I beg your pardon, I had no right to put in the office furniture at all. We are talking now about the active assets. We have no right to put in the horses and wagons.

2597 Q. Oh, yes. My question contemplated those if they are used in the gas business. You are proceeding on exactly the basis my question contemplated.

A. Well, the office furniture ought not to have gone in?

Q. Yes.

A. No, it went in in this case, you will observe, in the fixed or structural assets.

Q. Oh, yes. Very good. You put in the office furniture then at one-half of the amount. That amounts to it finally, doesn't it?

A. Well, that goes up against the electric plant, if we choose to take that up. Cash on hand $110,000, leaving $15,000 for the electric plants. Insurance, I don't know how to treat that, I don't know what to make out of that exactly.

Q. Well, omit it entirely. Omit the insurance entirely and put in the whole either of the printing plant or the furniture for the gas, and that will probably adjust it.

A. The printing plant I had already inserted, you will observe, one-half, as a fixed asset, so I suppose we had better omit that and foot this up.

Q. Very good.

A. I may be wrong but I have added it once and it appears to be $795,287.41.

Q. Added to the $22,632,663.09 would give you how much?

A. Do you wish me to treat this in the same way you did those?

Q. Yes. In other words, you figured $4.04 on the capacity, taking certain items. Now, will you take all the gas assets and say how much it is. It will be something over $4.04?

A. You wanted me to add that in?

Q. I understand, in the case of the other four companies, your computation simply took in as assets the real estate, machinery, manufacturing apparatus, street mains, meters and office furniture and works in process.

A. Do my figures check yours, $795,287.41?

Q. Yes.

A. Carrying that out, which is merely checking your computation, apparently $4.18.

2598 Q. Referring to your computations at page 2,351 relating to the other four Masaschusetts companies, of course, if you

had included in the assets there, the cash on hand, horses and carts and other items of assets which you excluded, the assets per thousand feet of sales or capacity would have been somewhat larger than you specified at page 2,351 of this record, would they not?

A. Yes. You are referring now to Cambridge, Fall River, Lowell and Worcester.

Q. Yes.

A. Yes.

Q. Now, you have referred to the Boston appraisal not being accepted, which leads me to ask you whether you do not understand that the consolidation of the Boston Gas Companies was made on the basis so far as the statute was concerned, allowing the consolidation of the outstanding stock and bonds amounting to $15,124,600.

A. All that I know about it I have seen in the printed copy that was handed to me through the kindness of the Corporation Counsel.

Mr. MATHEWSON: In this connection, I offer in evidence Exhibit 169 before the Gas Commission, being the Act of the Massachusetts Legislature permitting the consolidation of the Boston Gas Company, Chapter 421 of the Acts of 1905, showing exactly the terms of the consolidation.

Received in evidence and marked Complainant's Exhibit 256.

Mr. MATHEWSON: In passing, I call the attention of the Master to the capitalization fixed stated to be the face value of the outstanding notes and bonds or certificates of indebtedness as of October 31, 1904, to wit: $15,124,600 which was the authorized capital of the new company, and the following provisions:

2599 "The Boston Consolidated Gas Company shall not, by the acceptance of the capitalization herein authorized, be deemed to have admitted for any purpose that the par value of the capitalization is equal to the value of its property or to the value of the property necessary for the proper conduct of its business."

Q. Now, assuming Prof. Bemis' testimony before the New York Gas Commission at page 1,441 to be correct when he states that the output of the Boston Consolidated Companies for the year ending June 30, 1904, was about three billion feet of sales, that would indicate even under the capitalization fixed by the Act something more than $5.00 per thousand on sales, would it not?

A. If you wish me to make the computation——

Q. Well, merely in your head?

A. It is about 3,000 M. divided into 15,000,000 gives about $5.00. Of course I am merely serving you as a computer in all these instances. It is not my opinion.

Q. I understand, and I am much obliged to you for your courtesy in computing. Not being a land expert, I suppose you don't know whether land in Boston is as expensive as in New York or not?

A. I do not.

Q. In answer to one of my questions on page 2,448 of the present record, you stated, according to the record, the net profits of the New York Consolidated Gas Company would be greater in 1907 than in 1905 on the basis of a price of $1.00 per thousand cubic feet in 1905

and one of 80 cents in 1907. Is this statement correct, even under your estimate of sales in 1907?

A. If you assume the same cost in 1905 and also in 1907 you will have the same net profit on each thousand feet if the price is kept constant. If, however, you differ in the price by 20 cents the net profit will be cut by this amount in 1907 as against 1905.
2600 There would be some compensation in the reduced cost of distribution, and it appears to me in the possible reduced cost of manufacture, but I am inclined to adhere to my statement on page 2,448 as about right.

Q. Well, then will you look at page 2375 of the present record and say whether you did not state the net earnings for 1905 to be $6,175,342.94 according to your computation or method of treatment and did not state the estimated net earnings for 1907 to be $4,065,-895.00 or more than $2,000,000 less?

A. Under the conditions placed there, using the English accountants' methods for computing the cost of gas and the unverified and doubtful items on complainant's exhibit 94, summary of operations for calendar year 1905, given apparent cost of gas found to be 53.51 cents per thousand you will obtain the amount stated, $6,175,342.92 as against the figures obtained from Exhibit 96 given by the Consolidated Gas Company, which figures are $4,587,995.99 and are unverified and doubtful to me.

Q. Well, you say all the items in Exhibt 94 are doubtful, which go to expenses?

A. This is Exhibit 96.

Q. I know, but you have referred to Exhibit 94, showing the cost for 1905, and you stated that all those items are doubtful because you have not verified them. If then you exclude the doubtful items as you say you do, you would exclude all items of expense, would you not, and do you get any amount to allow as operating expenses?

A. I think that you perfectly well understand in this wholly extraordinary method of making out the cost of gas that has been pursued for years, the difficulties under which I am laboring and the difficulties under which any man accustomed to ordinary
2601 business labors. It is accepting simply what you choose to hand out and nothing more than that.

Q. I will see about that in a minute. Meanwhile do I quote you correctly from page 2375 where you say "under the English accountants' methods for computing the cost of gas and the unverified and doubtful items of Complainant's Exhibit 94, summary of operations for the calendar year of 1905, the apparent cash cost of gas is found to be 53.51 cents per thousand of gas sold, and the total net earnings $6,175,342.94" and a little below; "with the price of gas at 80 cents and its cost at 53½ cents, the net earnings for 1907 will be $4,065,-895.00." Have I quoted you correctly so far as I read, or have I quoted correctly what you have said?

A. Apparently, yes.

Q. Then, even upon your statements, and with gas computed in each case at 53½ cents, the net earnings for 1907 would be some-

thing more than $2,000,000 less than in 1905, would they not, if those statements of yours are correct?

A. You have given that partially and incompletely, for I have added, in handling this subject, that that seems to be something near right. I have added this, on the figures derived from Chicago, that the profits will be $5,293,335.

Q. I am taking the cost of gas there as the same in 1907 and in 1905 in the computation, as you did at this point. Now on that basis the net profits from gas would, as you state at page 2375, be more than two million dollars less in 1907 than in 1905 upon your basis of computation. Is that correct? Let me have a direct answer, please.

A. Subtracting the one from the other and acting as your computer in this matter, $2,109,447.94.

Q. Now, referring to your previous statement which you
2602 said a few minutes ago you stood by, on page 2448, that the net profits in 1907 on your computation would be greater than they were in 1905, will you not say, whether if gas in 1907 costs the Consolidated Gas Company to produce only forty-five cents as against the 53½ cents that you accept for 1905——

A. Would you mind dividing up that question?

Q. I cannot very well. Would not the net profits in 1907 still be less than in 1905?

A. Will you kindly give me the first statement that I said I stood by?

Q. Page 2448, the first question I asked you on page 2375 you said it would apparently be $2,109,000 less than it would be in 1905. Now I ask you if we were able to manufacture gas for forty-five cents in 1907 and we took the cost of gas in 1905 as 53½ cents, if the net profits in 1907 would not still be less than they are in 1905?

A. Bringing my reply down to a few concrete figures to you, my statement was that the probabilities were that the profits in 1907 would be $5,293,335.00, more or less and that you or the Consolidated Gas Company had claimed that in 1905, Exhibit 96, your profits were $4,587,995.99. That clears that situation up completely and is all that I meant or intended. I cannot answer the question that you put to me beyond that.

Q. Taking the cost of gas for the year 1905 at 53½ cents, will you look at page 2375 of the testimony and say if the total net earnings according to your statement should not be $6,175,342.94 for the year 1905?

A. That is what I believed your profits to have been exactly, although the Consolidated Gas Company stated that it was $4,587,995.99.

Q. Now, if we assume that in 1907 the Consolidated Gas Company would manufacture gas at 45½ cents, you state on the same
2603 page that their net earnings would be $5,293,335.00?

A. More or less approximately.

Q. Well, of course. Which would be, would it not, nearly a million dollars less than the $6,175,342.94 which you compute to be the profits of the Consolidated Gas Company for the year 1905?

A. But which you state to be $4,000,000——

Mr. MATHEWSON: I move to strike that out.

The MASTER: Strike it out. Answer the question and it will save all of us time. We understand what you claim about this, you have made yourself clear, and the main thing to do now is to answer these questions as they are asked.

The WITNESS: Yes.

Q. You have referred again to what you say was the inability to get information, and I propose to ask you one or two more questions on that subject. Is it not true that on or about September 19, you called at the office of the Consolidated Gas Company and saw Mr. Carter and asked to be shown the Real Estate Account from 1884 to date. Is that right?

A. I called at the office about that date as near as I can recall and asked for that and a great deal more besides.

Q. That may be. Your answer to my question is yes, then, is it?

A. No.

Q. Is your answer no?

A. It is not necessary for me in an ordinary matter of business to answer unqualifiedly. I am not in a matter that cannot be treated in a rational way.

Q. Did you ask him to be shown the real estate accounts from 1884 to date?

A. I did so, and other matters.

Q. And he told you that as this account was not in evi-
2604 dence for that period it could not be shown to you by him, is that right in substance?

A. It was not shown to me by him.

Q. Did he not state that as the account was not in evidence for that period it could not be shown to you by him, or didn't he say that in substance to you?

A. I related all of that as well as I could in a letter which I can find——

Q. Oh, well, that letter we have all seen. Now, Doctor, I will ask you to answer my question if you will be good enough. You brought this subject up yourself repeatedly, and I am going to find out about it. Now, will you answer the question?

A. I will offer you the letter or read it to you in reply to your question.

Q. No, I decline to have you read from it.

The MASTER: The letter is in evidence.

(Question repeated as follows):

"Did he not state that as the account was not in evidence for that period it could not be shown to you by him or did he say that in substance to you?"

Mr. BURR: If he needs the letter to refresh his recollection as to what occurred, I suppose he may use it.

Mr. MATHEWSON: I have no objection.

A. The interview at that time was rather indefinite and definite replies——

Q. Can you not answer that question?

A. I do not recall whether he did or not at that meeting.

Q. Do you mean to tell me that you cannot remember so far back as September 19 in respect to a matter upon which you have placed so much and so repeated stress in your examination?

A. I can state the exact fraction to you where they are definite from this letter, if you wish it.

Q. You don't remember whether he said that or not, you
2605 say?

A. He did not show me the account.

Q. Didn't you comment on the exhibits which had been presented, showing the cost of gas and state that there had been no adequate audit of them to determine whether the charges in the various operating accounts had been made or whether items of expenditure properly chargeable to construction had not been charged in the operating expense account, or didn't you make statements in substance as I have recited?

A. I was very much dissatisfied with what I had obtained and expressed that dissatisfaction to Mr. Carter, asking for further information. I do not recall any commentary.

Q. Did not Mr. Carter in reply to your statement say he would be very glad to have you satisfy yourself on these points by as complete and elaborate an audit of the operating accounts for 1905 as you might choose to make, including original vouchers and payrolls, and that he would place at your disposition as large a corps of clerks as you might require to assist you in making such an examination. Did he say that to you or say that in substance?

A. He deferred definite reply on all matters until after a consultation, which consultation was reported to me as to the results, over the telephone, I think, the next day.

Q. Didn't he say in substance to you what I have just recited?

A. At that time?

Q. O, yes.

A. There was no definite promise that I——

Q. Didn't he say so the next day after the telephone conversation?

A. Exactly what I related in my letter, he made a verbal statement that he would furnish facilities required for the examination of the operating ledgers in evidence and a comparison of the vouchers and subsidiary books and payrolls.

Q. Now, didn't you ask him to put that in writing and
2606 didn't he subsequently tell you that he would not put it in writing, but that the accounts were open to your inspection as he had offered? Now, just *just* give me an answer, please, to that, Doctor. And didn't he tell you so within twenty-four hours after that first conversation?

A. At four-thirty on the afternoon of the following day he stated amongst other things——

Mr. BURR: Is this over the telephone?

The WITNESS: Over the telephone, verbally, that he would not reply to it in writing but was willing to furnish me with all the facilities required for the examination of operating ledgers in evi-

dence and a comparison with the vouchers and subsidiary books and payrolls, refusing all else that I had asked.

Q. Did you go after that to the office of the company and make any examination such as he offered, or did you go off and write the letter to which you are now referring and which has been offered in evidence?

A. I conferred with the Corporation Counsel, stating to him at the time that such an examination would be merely a partial and incomplete one, of one portion of the works and the last phrase of this letter was suggested by the Corporation Counsel himself.

Q. No matter about that. I don't think that is necessary.

The MASTER: That does not answer either of the questions you were asked. The question was whether you went there and made the examination or whether you wrote that letter?

The WITNESS: I did not go there and I wrote the letter.

Q. Then you did not avail yourself and have not since
2607 availed yourself of the offer at all which Mr. Carter made you to submit to you these vouchers, payrolls and records?

A. I was unable to do so on account of being engaged in getting evidence or in giving it.

Q. Then I hope we shall not hear any more about no information being granted to you and no examination of the records of the company possible, because they were refused.

By Mr. BURR:

Q. You stated your reasons in the letter why you did not accept the offer?

A. I did.

The MASTER: You can bring that all out, Mr. Burr; and, besides, he is now pretty clear on that, I think.

By Mr. MATHEWSON:

Q. Now, you have said a great deal about the methods of the English accountants and I would like to ask you some questions in that regard; when you say that reports can be obtained for a shilling by anybody, you simply mean, do you not, that anyone who sends a shilling can get a copy of the regular report which is submitted in Great Britain the same as anyone sending a dollar to Washington for a copy of a patent that has been issued can get a copy of the patent. Do you mean they can get anything more than that?

Mr. BURR: The law is in evidence and a copy of the account which the tax payer or consumer is entitled to is also in evidence in an exhibit offered by the city.

Q. Is the report referred to anything more than the ordinary report of the company which is available to everybody, the regular annual report?

2608 Mr. BURR: If the Master likes to see the kind of a report they are entitled to, there it is.

Mr. MATHEWSON: They are bound by law to print it in manifold.

Mr. BURR: You cannot get such a comprehensive report as that from the Consolidated Gas Company or any other company here.

Mr. MATHEWSON: Perhaps not.

Mr. BURR: I submit that the copy of the report and the law providing for its delivery to the person paying the shilling is in evidence and speaks for itself, and a copy of which the Master now has in his hands.

The MASTER: That is true, but in view of the witness's statement on direct examination I think it is proper to ask the question on cross-examination.

A. Referring to Reeson's *Complete Gas and Water Gas*, 1817 to 1902, with full index, accountants, appointment of, to examine affairs of undertaker, Gas Works Clauses Act, S. 35, page 47; also page 219 under the heading of "Accounts," Gas Works Clauses, 1871:

"The undertaker shall fill up and forward to the local authority of every district within the limits of the special act on or before the 25th day of March in each year, an annual statement of accountants made up to the 31st day of December then next proceeding as near as may be in form and containing the particulars specified in Schedule B to this Act annexed."

Q. My question merely is whether there is anything more that you can get for a shilling than a copy of that regular annual
2609 report, that is the whole question.

A. I have told you all that can be gotten here. If you allow me to finish——

Q. I do not really think it is necessary.

A. I am not a lawyer. I can read you the Acts of Parliament and that is as near as I can give you the information you are asking for.

By Mr. BURR:

Q. Just refer to the schedules and give the headings of what, contained in the schedules, they are obliged to give; contained in the accounting that they are obliged to give.

A. The schedules are on page 224:

"Form of annual accountants, statement of share capital, statement of loan capital, statement of capital account, revenue account for year ending, profit and loss account."—

Q. All in detail?

A. All in detail.

"The reserve fund account, statement of coals, statement of residual products, general balance sheet," following one after another.

Q. Doesn't it also provide that regular accounts must be given for depreciation fund for works on leaseholds, if any?

A. It does.

Mr. MATHEWSON: Now, I repeat my question.

By Mr. MATHEWSON:

Q. When you referred to the report which could be obtained for a

shilling by any shareholder it was simply a copy of its regular annual report that you had in mind?

A. That was all that was intended.

2610 By Mr. BURR:

Q. In addition it contains a general balance sheet, does it not?

A. Yes, that I have stated here.

Mr. MATHEWSON: That all is shown in what was previously in evidence. My question could have been answered in three words, or one in fact.

Q. Now, you have testified that the system of accounts employed by the English companies is superior to that employed by the Consolidated Gas Company, as I recollect your testimony. Do you know whether all English and British companies employ the same systems of accounts?

A. I do not.

Q. To what system of accounts do you refer then?

A. Those I just read over.

Q. Do the British companies employ the same system as that employed in the case of gas works owned and operated by municipalities in England?

A. System of what?

Q. System of accounts, of course.

Mr. BURR: The same system of keeping accounts or publishing them.

Mr. MATHEWSON: The same system of accounts. The witness has repeatedly referred to the system of accounting in Great Britain. Will the Stenographer repeat the question.

The STENOGRAPHER (reading): Do the British companies employ the same system as that employed in the case of gas works owned and operated by municipalities in England?

A. I have received accounts from a municipal plant and I have models of other accounts and I have looked it up and found out how much——

2611 Q. Don't you know from recollection on that?

A. They might differ by one word.

Q. That is the best answer you can make without looking it up?

A. Yes.

Q. Now, referring to the English system of accounts as commended by you, will you take Field's Analysis for 1905 and point out wherein the system there employed differs from that of the Consolidated Gas Company?

A. I didn't know that the Consolidated Gas Company had any definitely stated system.

Q. Oh, you didn't know they had a system of accounts?

A. No.

Q. I thought you said Mr. Heyward told you it was one of the best system- of accounts he had ever seen?

A. Oh, no, he was lost in admiration of the accuracy of the additions and subtract-ons.

Q. Then as far as your own information goes, you are not able to point out from Field's Analysis that there is any difference between the Consolidated system of accounts and the British system of accounts, do you?

A. I took very great pains, referring to page 2338, segregation of Exhibit 94, to make as close an approximation as I could to the heads under which British costs of gas are frequently found.

Q. Now, you understand that in the State of New York companies are forbidden to charge meter rental and that the price which they receive for gas covers both the gas delivered and the use of the meter which belongs to the company, do you not?

A. I am not posted on that.

Q. Do you not know that the companies here are not permitted to charge a meter rental?

A. I do not.

Q. Well, then, I see that in taking the price charged by the British companies, you took merely the price paid by the consumer
2612 for gas but did not take the amount paid by the consumer, for meter rental according to Field's Analysis, was that right?

A. Referring to what?

Q. Referring to your statement of the price at which gas was sold in London by the three Metropolitan companies. If you include the amount received by the London companies as meter rentals and as shown in Field's Analysis?

A. I presume you refer to page 54 of my affidavit?

Q. Yes, which you have quoted in your testimony here. Where you state the average is sixty-two cents for all Metropolitan companies.

A. Meter rental, stove rental and miscellaneous receipts were deducted from the net cost of coal and working expenses instead of being added to the price of gas to obtain the profit on capital employed.

Q. Yes, but in the price which you said was received by the company per thousand cubic feet you did not include the amount received by the companies as meter rentals, did you?

A. I did not.

Mr. BURR: Are you speaking of the English companies?

Mr. MATHEWSON: Yes.

Q. Now, if the London companies receive a certain amount for gas and a certain amount for meter rentals these two sums should be added together in comparing the price of gas with New York city, should they not, if it be true that the companies in New York cannot charge meter rentals, but the use of the meter as well as the gas furnished is covered by the amount received from the consumers in New York?

A. Referring to Field's Analysis for 1904——

Q. I do not think that will answer the question.

A. If the English companies do receive meter rentals in such cases in comparing the gross revenue of an English company
2613 with that of a New York company it would be proper to take cognizance of the meter rentals.

Q. Should not the meter rental in that case be added to the price of gas, as you have stated it for the three London companies, before comparing with the price received by the Consolidated Company in New York?

A. In the case of two of the companies, yes.

Q. Two of which companies, the London companies?

A. The Commercial and the South Metropolitan Company receive a meter rental. In the case of the Gas Light & Coke Company, not receiving any meter rental, it probably could not be.

Q. Will you state what the meter rental is stated at in Field's Analysis for each of these companies?

A. For the year 1904?

Q. For the same year with which you are dealing when you stated the selling price at page 54 of your affidavit as averaging sixty-two cents?

A. Meter rental, folio 3, Field's Analysis 1904, the Gas Light Company, nothing at all; the Commercial, per one thousand sold, 1.63 English pence.

Q. About how many cents would that be?

A. There are 2.03 cents to each English penny; that would make about 3.3 cents, I should judge.

Q. And that added to the figure of fifty-eight cents at page 54 of your affidavit would give 61⅜ cents?

A. Something of that sort. In the South Metropolitan Company 1.21 pence, which multiplied by 2.03 will give you about 2.4 to 2.5 cents which, added to forty-nine cents will give you 51.5 cents.

Q. Of course, you know that the cost of the production of gas in Great Britain is very much less than it is in New York or in America generally, do you not?

A. That claim is made.

Q. You never have operated a gas plant there yourself?

A. Never.

2614 Q. Isn't it a fact that every one of the British companies shown in Field's Analysis of the London companies, the suburban as well as the city, do charge meter rental except the Gas Light Company of London, according to the statement in Field's Analysis?

A. It would so appear from Field's Analysis.

Mr. BURR: I suppose it will be conceded that the Gas Light Company of London is the largest company there?

Mr. MATHEWSON: Yes, I think that is right. The largest company in London and they charge the highest price for gas, according to the Doctor's statement, which is undoubtedly so.

Mr. BURR: You mean by "Doctor," Dr. Humphrey's statement?

Mr. MATHEWSON: Oh, no, according to Doctor Marks' statement.

The WITNESS: I beg your pardon, I am not a doctor. Just plain "Mr."

Q. Now, let us look at your affidavit further on the subject of London companies—you state in your affidavit, do you not, that the profit on capital employed, amounts to 8.39 per cent. in the case of the Gas Light Company?

A. So it reads.

Q. And for the Commercial the profit per cent. on capital employed is 8.72 cents?

A. Yes.

Q. And the South Metropolitan is 7.58 cents, at page 54?

A. Correct.

Q. Or an average for the three Metropolitan companies of 8.24 cents profit on the aggregate capital employed?

A. "Profit on capital employed," is the heading.

Q. Now, you also said that the per cent. of profit on stock,
2615 share and premium capital excluding premium on debenture stock is for the Gas Light Company 9.35 per cent., for the Commercial Company 10.86 per cent., for the South Metropolitan Company 8.85 per cent., and the average for three Metropolitan companies is 9.32 per cent.; is that correct? You so state in your affidavit on page 54?

A. Yes. It is a valuation from a statement in Field's Analysis.

Q. And you believe it to be true, of course?

A. Yes.

Q. And you also state that the average profit realized on all the capital employed by all the Metropolitan companies of London appears to be 8.25 per cent.?

A. Yes.

Q. Now, isn't it the fact, Doctor, according to your information that the London companies were paying as high as 10 per cent. and the South Metropolitan, indeed, as high as 12 per cent. about twenty years ago and that they were permitted substantially to double their stock, paying upon the double stock about as much per cent. in dividend or something like that?

A. Yes, that was related in my direct evidence.

Q. Yes, so I understood. In other words, the lower rate of interest or return now paid on the share capital is upon double the amount of the original capital?

A. Yes, that was the first issue, and some others that were joined to that.

Q. Referring to electrolysis, isn't it possible to tell the pitting due to an electric current from the pitting that occurs in iron pipes by reason of disintegration from other causes?

A. Well, electrolysis consisting of a carbon and iron battery with an alkaline solution in contact with it does not differ in its general appearance from electrolysis occasioned in any other way. In other words, you cannot tell if the electrolysis occurred—and it oc-
2616 curred fifty years ago, in many cases before we ever heard of any wandering currents. You cannot tell by looking at it just what it might be laid to.

Q. But is it all pitting due to electrolysis of one kind or another?

A. Is it all pitting?

Q. Yes.

A. Oh, no, I cannot say that.

Q. Then my question is whether you cannot detect the pitting due to electrolysis in iron pipes *form* pitting due to other causes?

A. In using the word electrolysis, you mean electrolysis due from possible wandering currents or electrolysis due to the action——

Q. I used the term exactly as you did a moment ago, where you said it was all electrolysis where electricity was concerned——

A. Did I?

Q. I thought so, yes. Now, my question is whether you cannot detect pitting due to electrolysis in an iron pipe, whether due to this spontaneous battery to which you have referred or to stray currents, from pitting in iron pipes due to other causes than electrolysis?

A. No.

Mr. BURR: There are only two causes given, stray currents and the electricity in the earth itself.

Mr. MATHEWSON: That is all electrolysis and Dr. Marks says there is pitting in iron pipes which is not due to electrolysis. My question is whether you cannot determine by inspection whether pittings are due to electrolysis or due to other causes.

The WITNESS: Electrolysis is like medicine. You cannot tell what would have happened if you had not given it.

Q. Of course, but I think that does not quite answer my question. You say that the pitting is due to electrolysis in some cases and that in other cases pitting occurs without the existence of electrolysis.

A. Unknown causes.

2617 Q. My question is, cannot an expert determine by the character of the pittings whether they are due to electrolysis or whether they are due to some other cause?

A. I should think the only way would be to use electrical instruments to determine whether or not there was electricity there.

Q. Even if mains may rest in an ashy or alkaline soil and therefore there will be some electrolysis from this natural battery, is it not true that additional or stray currents of electricity will greatly augment the pitting?

A. There is no doubt that there is such a possibility, but it depends so largely on conditions outside of mere existence of the currents that you cannot say.

Q. Is it true even where mains are not laid in any ashy of alkaline soil and where consequently there is no natural battery set up as you have mentioned the pipes will still be affected by electrolysis where stray currents of electricity come in contact with them?

A. Of course my experience in that matter is very limited, but I never found where there was very great agitation for about nine or ten years——

By Mr. BURR:

Q. Agitation of what?

A. Of the subject of electrolysis; but for nine or ten years there was a continuous discussion in the way of suggestions and accusations against the Philadelphia Edison Electric Light Company of which I was engineer and president, and which had a ground neutral, carrying that all the time. There never was any case where it could be definitely said that the damage had been done by electrolysis by reason of the grounded neutral.

2618 Q. Do you not know that the subject is considered of such importance by the American Light Association that they have appointed a special committee of most competent ex-

perts to consider the subject and to report how it can be guarded against and treated with?

Mr. BURR: I do not object to the question if he leaves out "most competent experts." I don't know whether the professor knows anything about it or not.

Mr. MATHEWSON: If he does not, he can say so. I suppose he knows who they are.

A. I know that such a commission has been appointed.

Q. And don't you know that the Water Pipe Association—I am not sure of their name exactly—have appointed a similar committee in view of the danger to their pipes?

A. You mean of what locality is the water pipe?

Q. Well, it is the Water Works Association of America—Doctor Humphreys gives me the exact title.

A. That is my first information. I have not paid much attention to water works.

Q. Didn't you testify substantially that an electric current in passing is in strength inversely as to resistence?

A. That is Ohm's law. The quantity of the current is inverse to its resistence, indirectly as to electromotive force.

Q. If that is true, will there not necessarily be some current straying from the return conductor, provided the conductor is not completely insulated?

A. Referring to any form of conductor that is true. Insulation can hardly be made absolute and perfect.

Q. And it is true then that unless the return conductor, no matter how large it may be, is completely insulated, there will be some current straying therefrom which would involve possible

2619 electrolysis in a neighboring pipe?

A. Unless picked up by large masses of iron before it got there.

Q. Now the surface roads in New York City—the underground trolley surface roads, have as you know, I suppose, return conductors?

A. Yes.

Q. And you would not expect that that would have much effect, if any, in electrolytic action on the neighboring pipe, would you?

A. I should think not.

Q. Now taking the elevated structure, the road there having no such return conductors as the surface roads, as I understand it, do you contend that on account of the large mass of iron in the elevated railroad structure there can be no stray currents or conductors except the elevated structure itself?

A. In electricity everything is relative, and Ohm's law obtains everywhere. It would appear to me that the iron is so much greater in the elevated structure that the chances are very small indeed of any currents ever getting off it, even with bad rail connection, appreciable currents.

Q. When you say any currents getting off from it, isn't it true that electric currents even passing through conductors from the point of

generation to a distant point where employed as a motive force suffer some loss in that way?

A. I say appreciable currents.

Q. Don't you think that the current on the elevated railway can pass into the street from the foot of the columns, even if those columns may be insulated by concrete settings?

A. No doubt it can. Electricity will find its way out by the easiest passage that presents itself at any and all times.

Q. You said in your testimony, if I understood you, that Doctor Humphreys did not limit the accumulation of a reserve fund to any sum and you subsequently corrected that by saying that
2620 he did limit the five cents per thousand which he claimed to some amount equal perhaps to ten per cent. of the capital, but that he did not do this at first. You know that Doctor Humphreys was called only once before the Gas Commission and once before the Master here. What do you mean by saying that he did not at first limit——

Mr. BURR: Are you referring to any particular page?

Mr. MATHEWSON: The testimony of the witness, which I suppose he has in mind.

A. In regard to this matter, page 2390, I would say that my memory was not very good, nor even now very distinct on that point. I said that lately President Humphreys had agreed to the reserve fund of ten per cent. on the capital. Whether that referred—I heard President Humphrey's testimony before the Gas and Electricity Commission. I also heard it here and it is quite impossible and I presume unimportant, for me to find out whether it referred to the Gas and Electricity Commission or to this evidence.

Q. Well, the impression made on my mind, Dr. Marks, was that Dr. Humphreys had, as an afterthought, limited it. Now I call your attention to his testimony at page 1947 of this case where he specifically says the reserve fund shall be limited to, "say, one-tenth of the investment as in the case of many British companies." And I also call your attention to page 2469 of the printed testimony before the Gas Commission, where Doctor Humphreys said, "I would like it distinctly understood in my opinion is a reserve should not be called an actual expense of the business but as a reserve and be treated as a reserve and having grown to certain dimensions
2621 should be there stopped." Now, in that view, don't you wish to modify your testimony that Doctor Humphreys at first did not suggest a limitation, of his reserve fund?

A. I do not regard the phrase, "certain dimensions" as a limitation of sufficiently clear character to——

Q. Not even if he says "And having grown to certain dimensions, should be there stopped?" You would not consider that as a statement that it should be limited?

A. Not to any specific amount.

Mr. BURR: It is twenty-five minutes of five. If you have any more questions to ask along this point you had better finish with

him now. We propose to start in Monday morning to examine the plants, and Dr. Marks is our expert to examine the plants.

Mr. MATHEWSON: I will ask one or two other questions then which will be very brief.

Q. Referring to your book at page 220, in an article headed, "Opinion Concerning Reorganization of Gas and Electric Works," you compute a price on gas, a supposititious case in which appear these items:

"Depreciation, 5 per cent. of $125,000," which is supposed to be the investment; then, "Profit and Depreciation 15 per cent." That leaves ten per cent. allowance above the 5 per cent. for depreciation, doesn't it?

A. Yes.

Q. And you include in the price for gas, if I understand it correctly, the depreciation, 5 per cent., and the fixed expenses as you call it, the profit and the manufacturing and distributing expense; what do you mean by the fixed expense, Doctor?

A. The fixed expense differs from what is commonly known as the fixed charges. The fixed expense is very carefully gone into on pages 188 and 189.

Q. Well, I won't go into it at present. The price of 2.11
2622 which you figure out here in this supposititious case includes the price of gas per thousand, $1.10——

A. I beg your pardon. The last three items at the bottom are footed up, making $2.11.

Q. Oh yes, the last three items at the bottom, "Profit and Depreciation, 15 per cent., $1.17"——

A. Of $7.81.

Q. No, $1.17?

A. Yes, 15 per cent. of $7.81 is $1.17.

Q. Then "Fixed Expense for one thousand cubic feet, 0.19," and manufacturing and distributing expense per one thousand 0.75, total $2.11?

A. Yes.

Q. And this $7.81 is the investment as per annual thousand cubic feet of sales upon your assumed capitalization?

A. Yes, in a town of 8,000 inhabitants. I think that is what you were referring to earlier on before here.

Q. Now, on page 239 again you say: "With the allowance of 5 per cent. for depreciation, the net profit to be added to the profit of the electric plant would be $4,536.80, or 10 per cent. on the investment?"

A. Yes.

Q. And you subsequently say in your book, do you not, experience has taught you that 5 per cent. for depreciation in an electric plant is insufficient and that it should be 10 per cent.?

A. In many cases.

Q. And so, too, in various other cases, including Marblehead and Attleboro, I see you refer to a price necessary to yield 5 per cent. depreciation and 10 per cent. profit on the investment (page 188); that is the case, is it not?

A. Yes; that is correct.

Mr. MATHEWSON: That is all. Now I have not cross-examined Dr. Marks on the cost of gas and on the matter of value of plant and its various items, which I understood I might not take
2623 & 2624 up until he has completed his evidence on those subjects, and there may be a few more questions on these other features that I have not covered, but they will not be extensive.

The MASTER: It is understood if they do not wish to call him again on those matters that then you may resume your cross-examination in so far as you may desire on the testimony as it already stands.

Mr. MATHEWSON: And if they do call him again I shall have the right to cover his subsequent testimony. I will ask you just one more question now.

Q. According to Ohm's law electricity leaves not only by the easiest way, but by every passage which presents itself, the only question being the proportion that goes by the various passages?

A. It does.

At 4.45 o'clock p. m. adjourned to October 8, 1906, at eleven o'clock a. m.

Last Exhibits:

Complainant's 256.
State's W.
City's 54.

2625 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, MONDAY, *October* 8, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Garver, Mr. Burr, and Mr. Kirby.

Mr. BURR: We are about to offer in evidence certain ap-
2626 plications by the Consolidated Gas Company for reduction of assessments of various plots due in 1903, 1904, 1905 and 1906, showing the estimated value placed upon those lots by the company itself. These are the *certiorari* proceedings I spoke to you about over the 'phone some days ago, Mr. Garver, that we desired to avoid the necessity of calling Mr. Gawtry if possible, so if it was

agreeable to you, after your looking at them we might upon consent enter them upon the record.

Mr. GARVER: We have no objection to your offering these copies instead of producing the originals, but we object to the papers going in evidence on the ground that it clearly appears from the various petitions that the value that was placed on these properties was not the value of those properties to the company as a going concern, but the value for which the property would, according to the statutory provisions, sell for under ordinary circumstances, and also the fact that the values placed upon the different pieces of property were uneqqual. In other words, the basis of valuation stated in these various applications is entirely different from the basis upon which we rely in the present suit.

Mr. BURR: We do not think so, and we think they are admissions as against interest upon the question of valuation of this real estate, and are permissible to be placed upon the record.

The MASTER: They are all verified petitions of the gas company on *certiorari* to review the assessments of the real property?

Mr. BURR: Yes, sir.

The MASTER: I will admit them, Mr. Garver, and give you an exception.

Mr. GARVER: Exception.

Mr. MATHEWSON: That will apply to each one of these without raising the question anew?

2627 The MASTER: Yes, you need not repeat the objection.

Mr. BURR: I read from the petition and order for writ of *certiorari* from the Supreme Court, New York County, in the matter of the application of the Consolidated Gas Company of New York for a writ of *certiorari* to the Board of Taxes and Assessments of the City of New York. The order for the writ is dated October 3d, 1903. The petition is signed "Consolidated Gas Company of New York, by Lewis B. Gawtry, Vice-President. Petitioner. Shearman & Sterling. Attorneys for Petitioners." Said petition is verified on the Twenty-third of October, 1903, by the said Lewis B. Gawtry.

Attached to the petition are certain exhibits with regard to each of the parcels referred to in the said petition.

Block 715, Lot 51.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate known as No. 438 West 18th Street, in Volume 1 of Section 3 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot 51 in Block No. 715.

It finds that the same has been assessed on the assessment roll of 1903 at a valuation of $9,000, whereas the same should not have been valued at more than $6,250, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

2628 The assessment is illegal and erroneous by reason of overvaluation and in excess of what the property would sell for under ordinary circumstances.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate of the tax rolls of the city.

The assessed valuation for this lot for the year 1902 was $5,000. The valuation for this year is an increase of 80 per cent.

There have been no improvements upon this lot for a number of years.

The value of this lot and of other real estate in the same ward and section or in the same locality with it has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York for the year 1903 is about thirty-three and one-third per cent. higher than for the year 1902. Even if such increased assessment were legal, any increase in the valuation of the said Lot 69, in excess of thirty-three and one-third per cent., is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the city.

It therefore asks that the same may be reduced to the sum of $6,600.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-President.*

2629 STATE OF NEW YORK, *County of New York:*

On this 28th day of March, 1903, before me personally came Lewis B. Gawtry, to me known, who, being by me duly sworn, did depose and say that he resides in New York City; that he is the Vice-President of the Consolidated Gas Company of New York, the corporation described in, and which executed the foregoing instrument; that he knew the seal of the said corporation, that the seal affixed to said instrument was such corporate seal; that it was so affixed by authority conferred by the Board of Directors of the said corporation, and that he signed his name thereto by like authority.

CORNELIUS A. LOUGHLIN,
Notary Public, New York County.

Certiorari proceedings were also instituted by the Consolidated Gas Company to review the assessments of its real estate for the year 1904 and an order in those proceedings was obtained on October 28, 1904.

Attached to the petition which was verified by Mr. R. A. Carter, Secretary of the Company, on October 27, 1904, are statements referring to the parcels mentioned in the petition. In this statement the grounds of objections are as follows:

"The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality, in
2630 that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the city.

The value of this lot and of other real estate in the same ward and section or in the same locality with it has not increased since the second Monday in January, 1902. The assessed valuation for this lot for the year 1902 was $5,000. The valuation for this year is an interest of 100 per cent.

In 1903 the said lot was assessed at a valuation of $9,000. The undersigned filed an application requesting that the assessment be reduced to the sum of $6,600, but no reduction was made, and the undersigned has instituted *certiorari* proceedings in the Supreme Court of this State to reduce the said assessment, which proceedings are now pending.

It therefore asks that the assessed value of said premises for 1904 be fixed at $6,600.

CONSOLIDATED GAS COMPANY OF NEW YORK,
(Sd.) LEWIS B. GAWTRY, *Vice-Pres.*"

Verification March 28, 1904.

An order in this proceeding was obtained on October 30th, 1905. Attached to the petition which was verified by Lewis B. Gawtry, Vice-President of the Consolidated Gas Company, on March 24, 1905, are statements referring to the parcels mentioned in the petition. In this statement the grounds for objections were the same as those expressed in the petition for a writ of *certiorari* for 1904, except that the following statement was added:

In 1904 the said lot was assessed at a valuation of Ten
2631 thousand ($10,000) dollars. In 1903 and 1904 applications were filed by the undersigned requesting that the said assessment be reduced to the sum of $6,600, but no reduction was received on either assessment.

Block 715, Lot No. 59.

The application for the year 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate known as No. 454 West Eighteenth Street, in Volume 1, of Section 3 of the Borough of Manhattan, of the City of New York, designated on the Tax Map as Lot No. 59 in Block 715.

He finds that the same has been assessed on the Assessment Roll of 1902 at a valuation of $165,000, whereas the same should not have

been, in his judgment, valued at more than $100,000, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the city.

Lot 8, Block 716, on West 18th Street, an- immediately opposite, is assessed for only $3.91 per square foot, while said lot of the undersigned is assessed for $8.97 per square foot.

Lot 7, Block 716, is assessed at the rate of $5.65 per square foot.

2632 Lot 12, Block 715, is assessed at the rate of $3 per square foot. Other lots in Block 716 are also assessed at a much lower figure than said lot of the undersigned.

Lots 7, 8, 9, 10, 11, 12, 13, 14, Block 715, and facing on West 17th Street, are assessed from $5.47 per square foot to $7 per square foot.

The undersigned claims that the aforesaid lots with the improvements thereon have a market value proportionate to that of the said lot of the undersigned, and that there is no reason why his said lot should be assessed at any higher rate than any of the said lots mentioned or other lots in the immediate vicinity.

The undersigned has objected to this assessment at the sum of $165,000 in former years as it has always believed that this assessment was in excess of the market value of the property.

It therefore asks that the same may be reduced to the sum of $100,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-President.*

Verification March 28th, 1903.

Block 716, Lot 14.

The application for the year 1905 recites as follows:

To the Commissioners of Taxes and Assessments:

Location of property, between 9th and 10th Avenues and 18th and 19th Streets.

Volume 1, Section or Ward 3, Lot 14, Block 715.

2633 Assessed valuation 1905, $36,000, with improvements; $32,000, unimproved.

The undersigned represents that it is the owner of the above described property and claims to be aggrieved by the aforesaid valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal and erroneous by reason of inequality in that it has been made at a higher proportionate valuation than the

assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the city.

The value of this lot and of other real estate in the same ward and section or in the same locality with it has not increased since the second Monday in January, 1902.

The assessed total valuation for this lot for the year 1902 was $25,000. The valuation for this year is an increase of 44 per cent.

There is a stable on this lot which has but little market value.

In 1903 and 1904 there was no assessed valuation of improvements, while this year, with the same cond-tions existing, the improvements were assessed at $4,000.

It therefore asks that the assessed value of said premises for the year 1905 be fixed at $25,000.

CONSOLIDATED GAS COMPANY OF NEW YORK, 4 *Irving Place.*

Verification March 24th, 1905.

2634 Block 870, Lot 54.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate known as No. 124 East 15th Street, in Volume 3 of Section 3, of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 54 in Block No. 870.

It finds that the same has been assessed on the assessment roll of 1903 at a valuation of $11,000, whereas the same should not have been valued at more than $7,500, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation, and is in excess of what the property would sell for under ordinary circumstances.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the city.

There is an old home on this lot which has been damaged by fire. The same is now practically worthless, except for storage purposes.

This lot was assessed at a valuation of $6,000 for the year 1902. The valuation for this year is an increase of 85 per cent.

The value of said lot and of other real estate in the same ward and section or in the same locality with it has not increased materially since the second Monday in January, 1902.

2635 The undersigned is informed and believes that the total assessed valuation in the City of New York for the year 1903 is about thirty-three and one-third per cent. higher than for the year 1902. Even if such increased assessment were legal, any increase in the valuation of said Lot No. 54 in excess of thirty-three and one-

third per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the city.

It therefore asks that same may be reduced to the sum of $7,500.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

Block 870, Lot No. 56.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate known as No. 126 East 15th Street, in Volume 3 of Section 3 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 56 in Block No. 870.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $50,000, whereas the same should not have been valued at more than $37,500, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over valuation and is in excess of what the property would sell for under ordinary circumstances.

2636 The aforesaid assessment also is illegal and erroneous by reason of inequality in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the city.

The assessed valuation of this lot for the year 1902 was $30,000. The assessed valuation for this year is an increase at the rate of 67%.

There have been no improvements on the said lot of the undersigned and the value of said lot and of other real estate in the same locality has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York for the year 1903 is almost 33⅓% higher than for the year 1902.

Even if such increased assessment were legal, any increase in the valuation of said lot No. 56 in excess of 33⅓% is unfair, illegal and erroneous, and not in proportion to the value placed upon other real estate of like character in the same ward and section, and other real estate on the tax rolls of the city.

It therefore asks that the same may be reduced to the sum of $37,500.

CONSOLIDATED GAS COMPANY OF NEW YORK,
LEWIS B. GAWTRY, *Vice-President.*

Verification March 28th, 1903.

2637 Block 952, Lot No. 29.

The application for 1904 recites as follows:

BOROUGH OF MANHATTAN.

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate at the corner of Avenue A and 20th Street, in Volume 4 of Section 3 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 29 in Block No. 952.

It finds that the same has been assessed on the Assessment Roll of 1904 at the valuation of $10,000, whereas the same should not have been valued at more than $7,000, to be in proportion to the assessed value of adjacent property and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation, and is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the city.

The value of this lot has not increased since the second Monday in January, 1903. This lot was assessed for $7,000 for the year 1903, which sum represented the fair market value of the property. There is no reason for the increase in the assessment.

This lot is assessed at the rate of $6.96 per square foot. The lots immediately north of it on Avenue A are assessed, unimproved, at only $4.08 per square foot.

2638 It therefore asks that the assessed value of said premises for the year 1904 be fixed at $7,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,

(Sd.) LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28, 1904.

Block 952, Lot 29.

The application for the year 1905 is substantially the same as the application for the year 1903, with the exception that in place of paragraphs 6 and 7 in the application for 1903 the following appears:

In 1904 this lot was assessed at a valuation of $10,000 and the undersigned filed an application to reduce the said assessment to $7,000, but no reduction was made and the undersigned instituted *certiorari* proceedings in the Supreme Court of this State to reduce the said assessment, which proceedings are now pending.

It therefore asks that the assessed value of said premises for the year 1905 be fixed at $7,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK.

Address, 4 Irving Place, New York City.
Verification March 24, 1905.

Block 952, Lots 33 and 34.

The application for the year 1905 recites as follows:

To the Commissioners of Taxes and Assessments:

Location of property, Nos. 333 and 335 Avenue A.
2639 Volume 4, Section or Ward 3, Lots 33 and 34, Block 952.
Assessed valuation, 1905, Lot 33, $8,000, with improvements.

Assessed valuation, 1905, Lot 33, $6,500, unimproved.
Assessed valuation, 1905, Lot 34, $8,000, with improvements.
Assessed valuation, 1905, Lot 34, $7,000, unimproved.

The undersigned represents that it is the owner of the above described property and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessments are illegal and erroneous by reason of overvaluation and are in excess of what the property would sell for under ordinary circumstances.

They are also illegal and erroneous by reason of inequality, in that they have been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the city.

The assessed valuation of these two lots for the year 1902 was $5,000 each. The assessed valuation for this year is accordingly an increase of 60 per cent.

There are some old tenement houses on this property upon which no improvements have been made for many years.

In 1903 the said lots were assessed at a valuation of $8,000 each, and in 1904 they were assessed, for the same amount. In
2640 both years the undersigned filed applications, requesting that the assessments be reduced, but no reduction was made, and the undersigned instituted *certiorari* proceedings in the Supreme Court of this State to reduce the said assessments of 1903 and 1904, which proceedings are now pending.

It therefore asks that the assessed value of said premises for the year 1905 be fixed at $6,250.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK.

Address, 4 Irving Place, New York City.
Verification March 29, 1905.
952—33-34.

Substantially the same application was made for the years 1903 and 1904.

Block 952, Lot No. 35.

The application for the year 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate known as No. 341 Avenue A, in Volume 4 of Section 3 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 35 in Block No. 952.

It finds that the same has been assessed on the assessment roll of 1903 at a valuation of $45,000, whereas the same should not have been valued at more than $30,000, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-
2641 valuation and is in excess of what the property would sell for under ordinary circumstances.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate on the tax rolls of the city.

The assessed valuation of the said lot for the year 1902 was $30,000. The assessed valuation for this year is an increase of 50 per cent.

The value of said lot and of other real estate in the same ward and section or in the same locality has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York for the year 1903 is about thirty-three and one-third per cent. higher than for the year 1902. Even if such increased assessment is legal, any increase in the valuation of the said Lot No. 35 in excess of thirty-three and one-third per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate on the tax rolls of the city.

It therefore asks that the same may be reduced to the sum of $30,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-President.*

Verification March 28th, 1903.

2642 Block 952, Lot 35.

The application for the year 1904 recites the following grounds of objection:

The assessment is illegal and erroneous by reason of over valuation, and is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportion valuation than the assess-

ment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the city.

The improvements on this property, according to the above figures, are assessed at $20,000. They consist of a valve house with a considerable amount of machinery in it, which should not be assessed as real property. The valve house is not worth more than $10,000, at which sum the undersigned values it and insures it for that amount.

In 1903 the said lot was assessed at a valuation of $45,000. The undersigned filed an application requesting that the assessment be reduced to the sum of $30,000, but no reduction was made, and the undersigned has instituted *certiorari* proceedings in the Supreme Court of this State to reduce the said assessment, which proceedings are now pending.

It therefore asks that the assessed value of said premises for the year 1904 be fixed at $30,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
(Sd.) LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1904.

2643 952, Lot 35.

The application for 1905 differs in the following respects:

The improvements on this property, according to the above figures, are assessed at $20,000. They consist of a valve house with a considerable amount of machinery on it, which should not be assessed as real property. The valve house is not worth more than $8,000.

Since the second Monday of January, 1905, we have had the property appraised by skillful real estate experts, who value the land at $18,988, and the buildings at $8,000.

It therefore asks that the assessed value of said premises for the year 1905 be fixed at $26,988.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK.

Address, 4 Irving Place, New York City.
Verification March 24th, 1905.

The application for 1906 recites the following:
Location of property, No. 341 Avenue A.
Volume 4, Section or Ward 3, Lot 35, Block 952.
Assessed valuation, 1906, $45,000, with improvements; $25,000 unimproved.

The undersigned represents that it is the owner of the above described property, and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same revised and corrected.

The ground of its objections are as follows:

The assessment is illegal and erroneous by reason of over-valuation, and is in excess of what the property would sell for under ordinary circumstances.

2644 The improvements on this property, according to the above figures, are assessed at $20,000. They consist of a valve house with a considerable amount of machinery in it, which should not be assessed as real property. The valve house is not worth more than $8,000, and adds no more than that sum to the amount for which the property would sell under ordinary circumstances.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $33,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK,
LEWIS B. GAWTRY, *Vice-Pres.*

Address, 4 Irving Place, New York City.
Verification 29 day of March, 1906.

Block 953, Lot No. 1.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate lying between First Avenue and Avenue A and 21st and 22nd Street, in Volume 4 of Section 3 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 1 in Block No. 953.

It finds that the same has been assessed on the assessment roll of 1903 at a valuation of $800,000, whereas the same should not have been valued at more than $700,000, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal, unfair and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

2645 There are six gas holders on this property, which are very old, together with a meter, repair shop and two or three valve houses. The property is depreciating in value owing to the wear and tear on the machinery and appliances.

The assessed valuation for 1902 was $610,000. There has been an increase of 31 per cent. without any reason, as there have been no improvements on the property nor any increase in the value of property in the same locality since the second Monday in January, 1902.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the city.

Block No. 954, which is exactly the same size as said Block 953 immediately to the north of it, is assessed at $721,500.

Block 927, which is considerably larger than said Block No. 953, is assessed at a valuation of $783,000. The improvements on both these blocks have a much higher market value than those on the said block of the undersigned.

It therefore asks that the same may be reduced to the sum of $700,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-President.*

Verification March 28th, 1903.

The application for 1904 recites as follows:

Location of property, between 21st and 22nd Streets and Avenue A and First Avenue.

Volume 4, Section 3, Lot 1, Block 953.

Assessed valuation, 1904, $800,000, with improvements.

2646 Assessed valuation, 1904, $500,000, unimproved.

The undersigned represents that it is the owner of the above-described property, and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal, unfair and erroneous by reason of overvaluation and is in excess of what the property would sell for under ordinary circumstances.

There are six gas holders on this property, which are very old, together with a meter repair shop and two or three valve houses.

The improvements are assessed at $300,000, but they are not worth more than $266,000, at which sum the undersigned values them for the purposes of insurance.

The assessed valuation for 1902 was $610,000. There has been an increase of 31 per cent., although there have been no improvements on the property, nor any increase in the value of the same, nor of property in the same locality with it, since the second Monday in January, 1902.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the city.

The valuation for the land alone is $500,000. The block between 19th and 20th Streets and First Avenue and Avenue A is assessed for $373,500, unimproved. The block above the one in question, that is, between 22nd and 23d Streets, is assessed for $470,000, unimproved, and the block above that at $448,000, unimproved.

2647 There is great inequality here. Block 853 is certainly no more valuable than those fronting on 23d Street.

In 1903 the said lot of the undersigned was assessed at a valuation of $800,000, with improvements. The undersigned filed an application requesting that the assessment be reduced to the sum of $700,000, but no reduction was made, and the undersigned has instituted

certiorari proceedings in the Supreme Court of this State to reduce the said assessment, which proceedings are now pending.

It therefore asks that the assessed value of said premises for the year 1904 be fixed at $700,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
(Sd.) LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28, 1904.

In 1905 an identical application was presented.
Verification March 24, 1905.
In 1906 the application recites as follows:
Location of property, No. —, 21st & 22nd Sts. & Ave. A & 1st Ave.
Volume 4, Section or Ward 3, Lot 1, Block 953.
Assessed valuation, 1906, $785,000, with improvements; $500,000 unimproved.

The undersigned represents that it is the owner of the above described property, and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal, unfair and erroneous by reason of overvaluation, and is in excess of what the property would sell for under ordinary circumstances.

There are six gas holders on this property, which are very old, together with a meter repair shop and two or three valve
2648 houses, all of which add nothing to the amount for which the property would sell under ordinary circumstances.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $500,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
Name, LEWIS B. GAWTRY, (Signed) *Vice-Pres.*

Address, 4 Irving Place, New York City.
Verification 29 day of March, 1906.

Block 972, Lot No. 45.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate known as No. 536 East 15th Street, in Volume 4 of Section 3 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 45 in Block No. 972.

It finds that the same have been assessed on the Assessment Roll of 1903 at a valuation of $19,000, whereas the same should not have been valued at more than $13,000, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

There is nothing on this property but a little pump house, not in use, and an old well. The lot has a frontage on the street of only 13 feet, and although it widens in the rear, such increased width adds but little to the value of the property.

The assessed valuation of this property for the year 1902
2649 was $13,000, which represented more than the full market value of the property. There has been an increased valuation at the rate of 46%, without any reason.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higer proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the city.

It therefore asks that the same may be reduced to the sum of $13,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-President.*

Verification March 28th, 1903.

The application for 1904 is the same as the application for 1903, except that it differs in the following respects:

Location of property, No. 536 East 15th Street.

Volume 4, Section 3, Lot 45, Block 972.

Assessed valuation, 1904, $21,000, with improvements.

Assessed valuation, 1904, $20,000, unimproved.

There is nothing on this property but a little pump house, not in use, and an old well. The tax map shows that this lot has a frontage on the street of only 3 feet 6 inches, and, although it widens in the rear, such increased width adds but little to the value of the property.

Lot 51 immediately adjoining said Lot 45 has a frontage of 142 feet and is assessed for only $20,000, unimproved. Said Lot 45, notwithstanding its extremely small frontage, is assessed unimproved for nearly as much per square foot as other lots in said Block 972, and on a valuation per front foot is assessed entirely out of proportion to other lots in the immediate vicinity.

2650 It therefore asks that the assessed value of said premise for the year 1904 be fixed at $13,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
(Sd.) LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 29, 1904.

The application for 1905 is substantially similar to the application for 1904.

Verification March 24, 1905.

The application for 1906 recites as follows:

Location of property, No. 536 East 15th Street.
Volume 4, Section or Ward 3, Lot 45, Block 972.
Assessed valuation, 1906, $21,000, with improvements.
Assessed valuation, 1906, $20,000, unimproved.

The undersigned represents that it is the owner of the above described property, and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal and erroneous by reason of over-valuation, and is in excess of what the property would sell for under ordinary circumstances.

There is nothing on this property but a little pump house, not in use, and an old well. The Tax Map shows that this lot has a frontage on the street of only 3 feet 6 inches, and, although it widens in the rear, such increased width adds but little to the value of the property.

The assessed valuation of this property for the year 1902 was $13,000, which represented more than the full market value of the same. In 1903 the said lot was assessed at a valuation of $19,000,
2651 and in 1904 and 1905 at a valuation of $21,000. In 1903, 1904 and 1905 the undersigned filed applications requesting that the assessments be reduced to $13,000, but no reduction was made, and in all three years the undersigned instituted *certiorari* proceedings in the Supreme Court of this State to reduce the said assessments for 1903, 1904 and 1905, which proceedings are now pending. The value of the said property has not increased since 1902 and there is no justification for its increased assessment.

The assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the city.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $13,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
Name, LEWIS B. GAWTRY (Signed), *Vice-Pres.*

Address, 4 Irving Place, New York City.
Verification March 29, 1906.

Block 978, Lot No. 1.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate located on the corner of 20th Street and Avenue A, in Volume 4 of Section 3 of the Borough of Manhattan, of the City of New York, designated on the Tax Map as Lot No. 1 in Block No. 978.

It finds that the same has been assessed on the Assessment
2652 Roll of 1903 at a valuation of $15,000, whereas the same should not have been valued at more than $10,000, to be in

proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and unfair and erroneous by reason of inequality in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the city.

The value of this lot and other real estate in the same ward and section or in the same locality with it has not increased materially since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York for the year 1903 is about 33⅓% higher than for the year 1902. Even if such increased assessment is legal, any increase in the valuation of said Lot 1 in excess of 33⅓% is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the city.

He therefore asks that the same may be reduced to the sum of $10,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

Block 978, Lot No. 6.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

2653 The undersigned represents that it is the owner of real estate located on Avenue B, between 20th and 21st Streets, in Volume 4 of Section 3 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 6 in Block No. 978.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $500,000, whereas the same should not have been valued at more than $400,000, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation, and is in excess of what the property would sell for under ordinary circumstances.

The assessed valuation of this lot for the year 1902 was $325,000. The valuation for this year is an increase of 54%.

There are gas works, a coal storage house and a purifying apparatus on this lot. The same can only be used for the purpose of manufacturing gas. There have been no improvements on this property during the last year.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character

in the same ward and section, and other real estate on the tax rolls of the City.

The value of this Lot and of other real estate in the same ward and section or in the same locality with it has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York, for the year 1903, is about 33⅓% higher than for the year 1902. Even if such increased assessment were legal any increase in the valuation of said Lot 6, in excess of 33⅓% is unfair, illegal and erroneous and
2654 not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $400,000.

THE CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification 28th of March, 1903.

The application for the year 1904 was substantially similar except that it stated the assessed valuation for 1904 to be $500,000 with improvements and $320,000 unimproved.

Paragraph 5 in the Petition for 1903 appears in the Petition of 1904 as follows:

There are gas works, a coal storage house and a purifying apparatus on this lot, all of which can only be used for the purpose of manufacturing gas. These improvements according to the above figures are assessed for $180,000. They are not worth more than $158,000, at which sum the undersigned values them for the purposes of insurance.

Verification March 28, 1904.

The Application for the year 1905 was substantially similar to that for 1904, except that the clause quoted in full for 1904 reads as follows in the petition for 1905:

There are gas works, a coal storage house and a purifying apparatus on this lot, all of which can only be used for the purpose of manufacturing gas. These improvements according to the above figures are assessed for $180,000, but they are an inadequate improvement for the land, and add nothing to its value.
2655 Since the second Monday of January, 1905, we have had the property appraised by skillful real estate experts who value the land at $299,512, and state that the buildings add nothing to its market value.

It therefore asks that the assessed value of said premises for the year 1905 be fixed at $300,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK,

Address, 4 Irving Place, New York City.
Verification, March 24th, 1905.

The application for 1906 recites as follows:
Location of property, Avenue B, between 20th and 21st Streets.
Volume 4, Section or Ward 3, Lot 6, Block 978.
Assessed valuation, 1906, $500,000, with improvements.
$335,000, unimproved.
The undersigned represents that it is the owner of the above-described property, and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.
The grounds of its objections are as follows:
The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.
There are gas works, a coal storage house and a purifying apparatus on this lot, all of which can only be used for the purpose of manufacturing gas. These improvements are an inadequate improvement for the land, and add nothing to the amount for which it would sell under ordinary circumstances.
2656 It therefore asks that the assessed value of said premises for the year 1906 be fixed at $335,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK,
(Sgd.) LEWIS B. GAWTRY, *V. P.*

Address, 4 Irving Place, New York City.
Verification, March 29, 1906.

Block 979, Lot No. 1.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate comprising the block bounded by 21st and 22nd Streets and Avenue A and the marginal Street, in Volume 4 of Section 3 of the Borough of Manhattan of The City of New York, designated on the Tax Map as Lot No. 1 in Block No. 979.
It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $540,000, whereas, the same should not have been valued at more than $456,250 to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.
The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.
The said assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character, in the same ward and section, and other real estate on the tax rolls of the City.
The assessed valuation of this property for the years 1900, 1901

and 1902, was $365,000. The increased valuation at a rate
2657 of 48% is excessive and without reason, as there has been no change in the character of the property nor of the neighborhood since last year.

This lot is occupied by works of the Gas Company. There have been no improvements of such a nature as to increase the value of the property, which can only be used for the purposes of a gas works. Owing to wear and tear of the machinery and appliances, the property has depreciated in value.

Certain inequalities in the assessment of surrounding property to be noted are as follows:

Blocks 980 and 977 are both assessed at a less sum in proportion than said lot of the undersigned. The assessed value of the said lot is at the rate of $4.79 per square foot. The assessed value of Block 977 is at the rate of $3.63 per square foot; and Block 980 is also assessed at a lower rate per square foot than said lot of the undersigned.

The value of this lot and of other real estate in the same ward and section or in the same locality has not increased materially since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuations of real estate in the City of New York, for the year 1903, is about 33⅓% higher than for the year 1902. Even if such increased assessment were legal any increase in the valuation of said Lot, in excess of 33⅓% is illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

He therefore asks that the same may be reduced to the sum of $456,250.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-President.*

Verification March 28th, 1903.

2658 For the year 1904 the application, paragraph 1, same as paragraph 1 for 1903, with the following difference: Assessed valuation, $540,000, with improvements; $350,000, unimproved.

Paragraphs 2, 3, 4, 5 are substantially the same as paragraphs 2, 3, 4, 5 for 1903.

The following appears in the place of paragraphs 6, 7, 8, 9, 10 and 11 in the application for 1903:

The improvements on this lot comprise a plant for the manufacture of gas.

The improvements are assessed for $190,000, but they are not worth more than $135,550, at which sum the undersigned values them and insures them.

In 1903, the said lot of the undersigned was assessed at a valuation of $540,000, with improvements. The undersigned filed an application requesting that the assessment be reduced to the sum of $456,000, but no reduction was made, and the undersigned has

instituted *certiorari* proceedings in the Supreme Court of this State to reduce the said assessment, which proceedings are now pending.

It therefore asks that the assessed value of said premises for the year 1904, be fixed at $456,250.

CONSOLIDATED GAS COMPANY OF NEW YORK,

(Sgd.) LEWIS B. GAWTRY, *Vice-President.*

Verification March 28, 1904.

The application for the year 1905 recites as follows:

Paragraph 1 the same as paragraph 1 for 1903, with this exception:

Assessed valuation for 1905 $542,000, with improvements; $351,500 unimproved.

Paragraphs 2, 3 and 4 are the same as paragraphs 2, 3 and 4 for 1903, and in the place of paragraphs 6, 7, 8, 9, 10 and 11 for 1903 the following appears:

2659 The improvements on this lot comprise a plant for the manufacture of gas.

The improvements consist of a brick building, containing a gas plant, a large part of which is machinery. The said building is an inadequate improvement for the land and adds nothing to its market value.

In 1903 and 1904, the said lot of the undersigned was assessed in two parcels, one at $540,000 and the other at $1,500, making $541,500, with improvements. In both years the undersigned filed application requesting that the assessment of the larger lot be reduced to $456,250, but no reduction was made and the undersigned has instituted *certiorari* proceedings in the Supreme Court of this State, to reduce the said assessments of 1903 and 1904, which proceedings are now pending. The lot that was assessed at $1,500 in 1903 and 1904 has been included in the same parcel with the lot that was assessed for $540,000, making the net increase on the portion of the plot which was assessed in 1903 and 1904 at $540,000 the sum of $500, assuming that the lot that was separately assessed in those years at $1,500 is included in the larger assessment for 1905 at the same amount.

The assessed valuation of the larger lot for the years 1900, 1901 and 1902 was $365,000. The increased valuation at the rate of nearly 48 per cent. is excessive, as there has been no increase in the valuation of this lot since the second Monday in January, 1902.

Since the second Monday of January, 1905, we have had the property appraised by skillful real estate experts who value the land at $320,000 and state that the buildings add nothing to its market value.

2660 It therefore asks that the assessed value of said premises for the year 1905 be fixed at $350,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK.

Address, 4 Irving Place, New York City.

Verification March 24th, 1905.

The application for 1906 recites as follows:

Location of property, Block bounded by 21st and 22d Sts. and Ave. A. and the marginal St.

Volume 4, Section or Ward 3, Lot 1, Block 979.

Assessed valuation 1906, $542,000, with improvements, $351,500 unimproved.

The undersigned represents that it is the owner of the above-described property and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same revived and corrected.

The grounds of its objections are as follows:

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

The improvements on this lot comprise a plant for the manufacture of gas.

The improvements consist of a brick building, containing a gas plant, a large part of which is machinery, which is personal property. The said building is an inadequate improvement for the land and adds nothing to the amount for which it would sell under ordinary circumstances.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $351,500.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK,
(Signed) LEWIS B. GAWTRY, *V. P.*

Address, 4 Irving Place, New York City.
Verification 29th day of March, 1906.

2661 Block 982, Lot No. 13.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate located on Avenue C. between 14th and 15th Streets in Volume 4 of Section 3 of the Borough of Manhattan of The City of New York, designated on the Tax Map as Lot 13 in Block 982.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $475,000. Whereas the same should not have been valued at more than $375,000 to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

The assessed valuation of this property for the year 1902 was $375,000. There has been an increase of 27 per cent. without any apparent reason.

There are six very old gas holders on this lot, and a meter and

purifying house. The property can only be used for the purpose of manufacturing gas.

There have been no improvements on the property since the second Monday in January, 1902, and the value of the same and the value of the property in the said ward and section or in the same locality has not increased, on the contrary this property has decreased in value.

The aforesaid assessment is illegal and erroneous by reason of inequality in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the City.

2662 It therefore asks that the same may be reduced to $375,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

The application for 1904 is substantially the same as the application for 1903 with the exception that in paragraph 1 the assessed valuation for 1904 reads: $475,000, with improvements; $250,000, unimproved. And in place of paragraph 6 in the application for 1903 appears the following:

"There are six very old gas holders on this lot, and a meter and purifying house, which can only be used for the purpose of manufacturing gas.

"These improvements are assessed for $225,000, but they are not worth more than $156,350, at which sum the undersigned values and insures them."

The Petition concludes:

"It therefore asks that the assessed value of said premises, with improvements, for 1904, be fixed at $375,000, which sum represents their fair market value.

CONSOLIDATED GAS COMPANY OF NEW YORK,
(Sgd.) LEWIS B. GAWTRY, *Vice-Pres.*"

Verification March 28, 1904.

The application for 1905 is the same as the application for 1903, with the exception that in paragraph 1 the assessed valuation for 1905 reads: $475,000, with improvements, $275,000 unimproved, and in place of paragraphs 6, 7 and 8, appears the following:

"Since the second Monday of January, 1905, we have had
2663 the property appraised by skillful real estate experts who valued the land at $182,074 and stated that the buildings, except the gas holders, add nothing to its market value. These gas holders are not under any circumstances worth more than $126,000. The meter and purifying house should not be valued at more

than $31,000. The assessment of the property, therefore, at any sum above $339,074 is unfair, illegal and erroneous.

It therefore asks that the assessed valuation of the said premises for 1905 be fixed at $339,074.

CONSOLIDATED GAS COMPANY OF NEW YORK.

4 Irving Place, N. Y. C."
Verification, March 29, 1905.

Block 985, Lot No. 7.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate on East Eighteenth Street, in Volume 4 of Section 3 of the Borough of Manhattan of The City of New York, designated on the Tax Map as Lot 7 in Block 985.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $180,000, whereas the same should not have been valued at more than $156,250 to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate character than the
2664 assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

The assessed valuation of this lot for the year 1902 was $125,000. The valuation for this year is an increase of 44 per cent.

The value of this lot and of the other real estate in the same ward and section or in the same locality has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuations of real estate in the City of New York for the year 1903 is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal any increase in the valuation of the said Lot 7 in excess of 33⅓ per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $156,250.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

The application for 1904 is the same as the application for the year 1903, with the exception that in paragraph 1 the assessed valuation reads: $200,000, with improvements, $140,000 unimproved.

In other respects the application is substantially similar, except that paragraphs 5, 6 and 7 in 1903 are omitted and the following appears in place thereof:

"There are two very old gas holders and a small valve house on this lot. These improvements are assessed for $60,000, but
2665 they are not worth more than $31,600, at which sum the undersigned values and insures them.

In 1903, the undersigned filed an application requesting that the assessment be reduced to $156,250, which sum represents the fair market value of the property, but no reduction was made, and the undersigned has instituted *certiorari* proceedings in the Supreme Court of this State to reduce the said assessment, which proceedings are now pending.

It therefore asks that the assessed value of said premises for the year 1904 be fixed at $156,250.

CONSOLIDATED GAS COMPANY OF NEW YORK,
(Sgd.) LEWIS B. GAWTRY, *Vice-Pres.*"

Verification March 28, 1904.

The application for the year 1905 is substantially similar to that for 1904.

Verification March 24, 1905.

The application for 1906 recites as follows:

Location of Property, East 18th Street between Avenues B and C.

Volume 4, Section or Ward 3, Lot 7, Block 985.

Assessed valuation, 1906, $200,000, with improvements.

$155,000, unimproved.

The undersigned represents that it is the owner of the above-described property and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

There are two very old gas holders and a small valve house
2666 on this lot. These improvements add nothing to the amount for which the property would sell under ordinary circumstances.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $155,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
Name, LEWIS B. GAWTRY, *Vice-Pres.*

Address, 4 Irving Place, New York City.

Verification 29 day of March, 1906.

Block 987, Lot 37.

The application for 1904 recites as follows:

BOROUGH OF MANHATTAN.

To the Commissioners of Taxes and Assessment-:

The undersigned represents that it is the owner of real estate on Avenue B, between East 20th and East 21st Streets in Volume 4, of Section 3, of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot Number 37, in Block 987.

It finds that the same has been assessed on the Assessment Roll of 1904 at a valuation of $60,000, whereas the same should not have been valued at more than $50,000, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward
2667 and section, and other real estate on the tax rolls of the City.

The value of this lot has not increased since the second Monday in January, 1903, on which date it was assessed for $50,000. This lot is vacant and unimproved, and there is no reason for the increased valuation.

A lot, between East 19th and East 20th Streets and East of Avenue B, corresponding in location to the said lot of the undersigned, and of the same size, is assessed for only $50,000.

It therefore asks that the assessed value of said premises for the year 1904 be fixed at $50,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,

(Sd.) LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28, 1904.

The application for 1905 is substantially the same as the application for 1904, with the exception that it shows assessed valuation of $55,000.

In other respects the application is substantially similar, except that the following is introduced in place of paragraphs 6 and 7:

The total size of lots No. 1 and No. 33 between East 19th and East 20th Streets and east of Avenue B is just equal to the lot of the undersigned, and these two lots correspond in location to the said lot of the undersigned. The two lots are assessed at a total valuation of $50,000, unimproved.

It therefore asks that the assessed value of said premises for the year 1905, be fixed at $50,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK.

Address, 4 Irving Place, New York City.
Verification, March 24, 1905.

2668 Block 988, Lot No. 1.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate comprising the block bounded by 14th and 15th Streets and Avenues C and D, in Volume 4 of Section 3 of the Borough of Manhattan of The City of New York, designated on the Tax Map as Lot No. 1 in Block No. 988.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $550,000, whereas the same should not have been valued at more than $400,000 to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, on the tax rolls of the City.

Lot 1 in Block 989 to the north of Block 988 is also owned by the undersigned and is assessed at $450,000 which is an over-valuation. Lot 1 in Block 988 is not worth more than said Block 989 and is assessed higher.

The total assessed valuation of Block 383 to the south of Block 988 is $508,000. This block is cut up into lots and is partly improved and should be worth more than said block of the undersigned, though its assessment is not so high.

2669 It therefore asks that the same may be reduced to the amount stated.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

For the year 1904 the application is substantially the same, with the exception that the assessed valuation for 1904 reads $550,000, with improvements, $350,000, unimproved, and the following are inserted in place of paragraphs 5, 6 and 7 in the application of 1903:

It is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

In 1903, the said lot was assessed for $550,000, with improvements. The undersigned filed an application requesting that the assessment be reduced to the sum of $400,000, which sum represents the fair market value of the property, but no reduction was made, and the undersigned has instituted *certiorari* proceedings to reduce the said assessment, which proceedings are now pending.

It therefore asks that the assessed value of said premises for the year 1904 be fixed at $400,000.

CONSOLIDATED GAS COMPANY OF NEW YORK.

(Sd.) LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28, 1904.

The application for 1905 is substantially the same as the application for 1904, with the addition of the following:

2670 "Since the second Monday of January, 1905, we have had the property appraised by skillful real estate experts, who value the land at $293,188.

It therefore asks that the assessed value of said premises for the year 1905 be fixed at $400,000.

CONSOLIDATED GAS COMPANY OF NEW YORK.

4 Irving Place, New York City."

Verification March 24, 1905.

Block 991, Lot 1.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate situate between 14th and 15th Streets and Avenue D and Tompkins Street, in Volume 4 of Section 3 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 1 in Block No. 991.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $180,000, whereas the same should not have been valued at more than $156,250 to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

The assessed valuation of this property for the year 1902 was $125,000. The assessed valuation for this year is an increase of 44 per cent.

There has been no change whatever in the character of the property or that of the neighborhood. The land is used for the storing of coal.

The aforesaid assessment is also illeged and erroneous by

2671 reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

The value of this lot and of other real estate in the same ward

and section or in the same locality with it has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuations of real estate in the City of New York for the year 1903 is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment is legal any increase in the valuation of the said Lot No. 1 in excess of 33⅓ per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $156,250.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

The application for 1904 is substantially the same as the application for 1903, except that paragraphs 5, 7 and 8 in the application for 1903 are omitted in 1904.

2672 Block 991, Lot No. 26.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate lying between 14th and 15th Streets and Avenue D and Tompkins Street, in Volume 4 of Section 3 of the Borough of Manhattan of the City of New York, designation on Tax Map as Lot No. 26 in Block No. 991.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $125,000, whereas the same should not have been, in *his* judgment, valued at more than $106,250 to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

The assessed valuation of said lot for the year 1902 was $85,000. The assessed valuation for this year is an increase of 47 per cent. There has been no change whatever in the character of the property nor that of the neighborhood.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

The value of said lot and of real estate in the same ward and section or in the same locality with it has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York for the year
2673 1903 is about 33⅓ per cent. higher than for the year 1902.

Even if such increased assessment is legal any increase in the valuation of the said Lot No. 26 in excess of 33⅓ per cent. is unfair, illegal, and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $106,250.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

The application for 1904 is substantially the same as the one for 1903, except that paragraphs 6 and 7 in the application for 1903 are omitted from the application for 1904.

Block 1070, Lot No. 5.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate known as No. 551 West 41st Street, in Volume 2 of Section 4 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 5 in Block No. 1070.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $65,000, whereas the same should not have been valued at more than $62,500 to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over
2674 valuation and is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

The assessed valuation of this lot for the year 1902 was $50,000. The assessed valuation for this year is an increase of 30 per cent.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York for the year 1903 is about 33⅓ per cent. higher than for the year 1902.

The value of said lot and of other real estate in the same locality with the said lot of the undersigned has not increased since the second Monday of January, 1902. Even if such increased assessment were legal, any increase in the valuation of said Lot No. 5 in excess of 33⅓ per cent. is unfair, illegal and erroneous, and not in

proportion to the valuation placed upon other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $62,500.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

The application for 1904 is substantially the same as the one for the year 1903, except that the assessed valuation is stated to be $75,000, with improvements, $58,000, unimproved, and the following is inserted in place of paragraph 7 for the year 1903:

"The value of this lot has not increased since the second
2675 Monday in January, 1902. The assessed valuation of this lot for that year was $50,000. The assessed valuation for this year is an increase of 50 per cent.

There is a stable on the rear of this lot and a storage house occupies a portion of it, but a large part of the lot is vacant. These improvements are assessed for $17,000, but they are not worth more than $10,000, at which the undersigned values and insures them."

Verification March 28, 1904.

The application for the year 1905 is substantially the same as the application for the year 1904, with the exception that the assessed valuation for 1905 is stated to be $70,000, with improvements, and $58,000 unimproved.

Verification March 29, 1905.

Block 1071, Lots Nos. 10, 11, 12 and 13.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that is is the owner of real estate known as No. —, 42d Street, in Volume 2 of Section 4 of the Borough of Manhattan of The City of New York, designated on the Tax Map as Lots Nos. 10, 11, 12 and 13 in Block No. 1071.

It finds that the same has been assessed on the Assessment Roll of 1903 at a total valuation of $38,000, whereas the same should not have been valued at more than $30,000 to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

2676 It is also illegal and erroneous by reason of inequality in that it has been made at a higher proportionate valuation

than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

These lots are all vacant and unimproved in any way. The assessed valuation for 1902 was $24,000. The assessment for this year is an increase of 58 per cent.

The value of these lots and of other real estate in the same ward and section or in the same locality with them has not increased materially since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York, for the year 1903, is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessement were legal any increase in the valuation of said Lots Nos. 10, 11, 12 and 13 in excess of 33⅓ per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $30,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

The application for 1906 recites as follows:

Location of Property.

Volume 2, Section or Ward 4, Lot 1, Block 1089.

Assessed Valuation, 1906, $800,000, with improvements.
$525,000, unimproved.

2677 The undersigned represents that it is the owner of the above-described property, and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

There are four holders and a gas plant on this plot, which can only be used for the purpose of manufacturing and storing gas and which add nothing to the amount for which the property would sell under ordinary circumstances.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $525,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
Name, LEWIS B. GAWTRY, *P.*

Address, 4 Irving Place, New York City.

Verification March 29, 1906.

Block 1090, Lot No. 23.

The application for 1904 recites as follows:

BOROUGH OF MANHATTAN.

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate on the north side of West 42d Street, between Eleventh and Twelfth Avenues, in Volume 2 of Section 4 of the Borough of Manhattan of The City of New York, designated on the Tax Map as Lot No. 23 in Block No. 1090.

It finds that the same has been assessed on the Assessment Roll of 1904 at a valuation of $55,000, with improvements and $50,000 unimproved, whereas the same should not have been valued at more than $36,000 with improvements, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

2678

The assessment is illegal and erroneous by reason of over-valuation and in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the City.

In 1903 the said lot was assessed for $36,000 with improvements, which sum represented the fair market value of the property. There is no reason for the increased assessment this year.

The improvements are assessed at a valuation of $5,000. The lot is used for the storage of coke and the only improvement on it is a small one-story brick, office building. This building is not worth more than $1,000, at which sum the undersigned values and insures it.

It therefore asks that the assessed value of said premises for the year 1904 be fixed at $36,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
(Sd.) LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28, 1904.

The Application for the year 1905 is substantially the same as for the year 1904, except that it recites the assessed valuation for 1905 to be $53,000 with improvements and $50,000 unimproved, and omits paragraph 6 in the application for 1904.

Verification March 24, 1906.

2679 Block 1092, Lot No. 1.

The application for 1906 recites as follows:

BOROUGH OF MANHATTAN.

Application for Correction of Assessed Valuation of Real Estate.

Location of property, Volume 2, Section or Ward 4, Lot 1, Block 1092.

Assessed valuation 1906, $550,000, with improvements, $300,000, unimproved.

The undersigned represents that it is the owner of the above described property, and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioner of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

There are five holders and a gas plant on this plot, which can only be used for the purpose of manufacturing and storing gas and which add nothing to the amount for which the property would sell under ordinary circumstances.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $400,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK,
(Sgd.) LEWIS B. GAWTRY, *V. P.*

Address, 4 Irving Place, New York City.

CITY OF NEW YORK, *County of New York:*

Lewis B. Gawtry, being duly sworn, says that he is the Vice-President of the Consolidated Gas Company of New York,
2680 the owner of the within-mentioned premises, and that the statements contained in this application for the revision and correction of the assessed valuation are true.

LEWIS B. GAWTRY. (Sgd.)

Sworn to before me, 29 March, 1906.

CHARLES D. IMMEN, JR.,
Notary Public, New York County.

Block 1093, Lot 1.

The application for the year 1904 recites as follows:

BOROUGH OF MANHATTAN.

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate comprising the greater part of the block between 45th and 46th

Streets and 11th and 12th Avenues, in Volume 2, of Section 4, of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 1, in Block 1093.

It finds that the same has been assessed on the Assessment Roll of 1904, at a valuation of $425,000 with improvements, and $250,000 unimproved, whereas the same should not have been valued at more than $410,000, to be in proportion to the assessed value of the adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over valuation, and is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality, in
2681 that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the City.

The value of this lot has not increased since the second Monday in January, 1903. The assessed valuation for 1903 was $410,000, which sum represented the fair market value of the property. There is no apparent reason for the increased assessment this year.

The improvements are assessed for $175,000, which is greatly in excess of the sum for which the undersigned values and insures them.

It therefore asks that the assessed value of said premises for 1904 be fixed at $410,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1904.

The application for 1906 recites as follows:

Location of property.

Volume 2, Section or Ward 4, Lot 1, Block 1093.

Assessed valuation 1906, $425,000, with improvements, $250,000, unimproved.

The undersigned represents that — is the owner of the above-described property, and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

There are two gas holders and part of a gas plant on this plot,
2682 which can only be used for the purpose of manufacturing and storing gas and which add nothing to the amount for which the property would sell under ordinary circumstances.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $250,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK,
(Signed) LEWIS B. GAWTRY, *V. P.*

Address, 4 Irving Place, New York City.
Verification March 29, 1906.

Block 1107, Lots Nos. 23 and 28.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate consisting of wharves or bulkheads lying at the foot of 45th and 46th Streets in Volume 2 of Section 4 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lots 23 and 28 in Block 1107.

It finds that the same have been assessed on the Assessment Roll of 1903 at a total valuation of $48,000 for each lot, whereas the same should not have been valued at more than $25,000 each, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The aforesaid assessment is illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

The total assessed valuation of these lots for 1902 was $40,000. The valuation has been increased 140 per cent.

The value of said lot and the value of real estate in the
2683 same ward and section or in the same locality with the said lot of the undersigned has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the assessed valuation of real estate in the City of New York for the year 1903 exceeds that for the year 1902 by about 33⅓ per cent.

Even if such increased assessment were legal, any increase in the valuation of the said lots 23 and 28 in excess of 33⅓ per cent. is unfair, illegal and erroneous, and not in proportion to the valuation placed upon other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $25,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

The application for 1904 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate consisting of wharves or bulkheads, lying on the North River, between 44th and 45th Street- and 45th and 46th Streets, in Volume 2 of Section 4 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lots 23 and 28 in Block 1107.

It finds that the same have been assessed on the Assessment Roll of 1904 at a total valuation of $75,000, for each lot, whereas, the same should not have been valued at more than $25,000, each to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

2684 The assessments are illegal and erroneous by reason of overvaluation and are in excess of what the property would sell for under ordinary circumstances.

They are also illegal and erroneous by reason of inequality, in that they have been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

The value of each of these lots has not increased since the second Monday in January, 1903. These lots were assessed for $48,000, each for 1903. There is no reason for the increased assessment.

In 1903, the undersigned filed an application requesting that the assessment be reduced to the sum of $25,000, for each lot, but no reduction was made, and the undersigned has instituted *certiorari* proceedings in the Supreme Court of this State to reduce the said assessments, which proceedings are now pending.

It therefore asks that the assessed value of the said premises for 1904, with improvements, be fixed at $25,000 for each lot.

CONSOLIDATED GAS COMPANY OF NEW YORK,
(Sgd.) LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28, 1904.

Block 1157, Lot No. 1.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate, located between 10th and 11th Avenues and 65th and 66th Streets, in Volume 3 of Section 4 of the Borough of Manhattan of the
2685 City of New York, designated on the Tax Map as Lot No. 1 in Block No. 1157.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $1,050,000, whereas the same should not have been valued at more than $800,000 to be in proportion to the assessed value of adjacent property and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation; and it is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reasons of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

This property was assessed for the year 1901 and 1902 at a valuation of $800,000, and for 1900 at $700,000. There has been an increase of $250,000 without any reason. The property is used as a gas works and much of it consists of appliances useful only in the manufacture of gas and having no market value.

The total assessed valuation of Block 1158, which lies immediately to the north of said Block 1157, is $943,400, and that of Block 1156, which lies immediately to the south, is $475,800. Both of these blocks are of the same size as said Block 1157.

The total assessment of Block 1159 is only $898,000, while that of Block 1155 is only $822,000. The said Block 1157 should not be assessed at a higher valuation than any of the aforesaid blocks.

It therefore asks that the same may be reduced to the sum of $800,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verified March 28, 1903.

2686 The application for the year 1904 is substantially the same as the application for 1903, except that the valuation is stated to be $1,000,000 for 1904, and paragraphs 5 and 7 in the application for 1903 are omitted and the following is inserted in place of paragraph 6:

"Blocks 1155, 1156, 1158 and 1159, which lie immediately to the north and south of said Block 1157, are assessed, respectively, on a valuation unimproved at $430,000, $418,000, -430,000 and $477,000.

Verification March 28, 1904.

The application for the year 1905 recites substantially the same as the one for the year 1904, except that the assessed valuation for 1905 reads $1,000,000 with improvements, $500,000 unimproved and the following paragraphs are added:

"Since the second Monday of January, 1905, we have had the property appraised by skillful real estate experts, who value the land at $488,231.

It therefore asks that the assessed value of said premises for the year 1905 be fixed at $800,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,

4 Irving Place, New York City."
Verification March 24th, 1905.

Block 1177, Lot 21.

The application for 1904 recites the following:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate situated between 65th and 63th Streets, and 11th Avenue and the New York Central Railroad tracks, in volume 3 of Section 4, of the Borough of Manhattan of the City of New York, designated
2687 on the Tax Map as Lot No. 21 in Block No. 1177.

It finds that the same has been assessed on the Assessment Roll of 1904 at a valuaton of $140,000, whereas the same should not have been valued at more than $100,000, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the City.

The assessed valuation of this lot for the year 1903 was $100,000, which sum represented the fair market value of the property. There has been no increase in the value of the lot, during the past year and there is accordingly no reason for the increase of 40 per cent. in the assessment.

It therefore asks that the assessed value of the said premises for the year 1904 be fixed at $100,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
(Sgd.) LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28, 1904.

The application for the year 1905 is substantially similar, except that the assessed valuation is decidedly as follows:

Assessed valuation 1905, $140,000 with improvements; $130,000, unimproved.

Verification March 24, 1903.

2688 Block 1455, Lots Nos. 13, 14, 15, 16, 17 and 18.

The application for the year 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate known as Nos. 421-433 East 60th Street, in Volume 4 of Section 5 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot Nos. 13, 14, 15, 16, 17 and 18 in Block No. 1455.

It finds that the same has been assessed on the Assessment Roll of 1903 at a total valuation of $30,000, whereas the same should not have been valued at more than $18,750, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal, unfair and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances, and is not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

The assessed valuation of these lots for the year 1902 was $15,000. The assessed valuation for this year is an increase of 100 per cent.

These lots are all vacant with the exception of Lot No. 18. On this lot there is a small wooden house.

Their market value and the value of real estate in the same ward and section, or in the same locality with the said lots has not increased materially since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York, for the year 1903, is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal any increase in the valuation
2689 of the said lots Nos. 13 to 18 in excess of 33⅓ per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the amount of $15,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verified March 28, 1903.

Block 1455, Lots Nos. 20 & 21.

The application for the year 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate known as Nos. —— 60th Street, in Volume 4 of Section 5 of the Borough of Manhattan of the City of New York, designated on the Tax Maps as Lots Nos. 20 and 21 in Block No. 1455.

It finds that the same has been assessed on the Assessment Roll of 1903 at a total valuation of $7,000, whereas the same should not have been valued at more than $4,375, to be in proportion to assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and in excess of what the property would sell for under ordinary circumstances, and is not in proportion to the assessment of other

real estate in the same ward and section and other real estate on the tax rolls of the City.

2690 The total assessed valuation of these lots for the year 1902 was $3,500. The assessment for this year is an increase of 100 per cent.

These lots are both vacant and produce no income.

The market value of these lots and of real estate in same ward and section or in the same locality with them has not increased materially since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York, for the year 1903, is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal any increase on the valuation of said lots 20 and 21 in excess of 33⅓ per cent. is unfair, illegal and erroneous, and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $4,375.

CONSOLIDATED GAS COMPANY OF NEW YORK.
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verified March 28th, 1903.

Block 1455, Lots Nos. 23, 24, 25, 26, 27 and 28.

The application for 1903 recites the following:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate known as Nos. —— Avenue A in Volume 4 of Section 5 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lots Nos. 23, 24, 25, 26, 27 and 28 in Block No. 1455.

2691 It finds that the same has been assessed on the assessment roll of 1903 at a total valuation of $30,000, whereas the same should not have been valued at more than $22,500, to be in proportion to the assessed values of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason *over* over-valuation and is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

The assessed valuation of these lots for the year 1902 was $18,000. The valuation for this year is an increase of 67 per cent.

Their value and that of other real estate in the same ward and section or in the same locality with them has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York, for the year 1903, is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal any increase in the valuation of said lots Nos. 23 to 28 in excess of 33⅓ per cent. is illegal and erroneous and not in proportion to the assessment of other real estate on the tax rolls of the city.

It therefore asks that the same may be reduced to the sum of $22,500.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verified March 28, 1903.

2692 Block 1455, Lot No. 29.

The application for the year 1903 recites the following:

To the Commissioner- of Taxes and Assessments:

The undersigned represents that it is the owner of real estate known as No. — Avenue A in Volume 4 of section 5 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 29 in Block No. 1455.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $7,500, whereas the same should not have been valued at more than $5,625, to be in proportion to the assessed valuation of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances, and is also not in proportion to that of other real estate in the same ward and section and other real estate upon the tax rolls of the city.

The assessed valuation placed upon this lot for the year 1902 was $4,500. There has been an increase of 67 per cent. without apparent reason.

This lot is vacant and unimproved in any way and produces no income.

The market value of this lot and of real estate in the same ward and section or in the same locality with them has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York for the year — 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal any increase in the valuation of the said lot No. 29 in excess of 33⅓ per cent. is unfair, illegal and
2693 erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $4,500.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verified March 28, 1903.

Block 1455, Lot No. 30.

The application for 1903 recites the following:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner — Real Estate known as No. 418 61st Street, in Volume 4 of Section 5 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 30 in Block No. 1455.

It finds that the same has been assessed on the As-essment Roll of 1903 at a valuation of $4,500, whereas the same should not have been valued at more than $3,125, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

2694 The assessed valuation placed upon this lot for the year 1902 was $2,500. The valuation has been increased 80 per cent. without any apparent reason. This lot is vacant and produces no income.

The value of this lot and other real estate in the same ward and section or in the same locality with it has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York for the year 1903 is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal any increase in the valuation of the said Lot No. 30 in excess of 33⅓ per cent. is unfair, illegal and erroneous, and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $3,125.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verified March 28, 1903.

Block 1455, Lot No. 32.

The application for 1903 recites the following:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate known as No. 420 E. 61st Street, in Volume 4 of Section 5 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 32 in Block No. 1455.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $12,000, whereas the same should not have been valued at more than $8,750, to be in proportion to the
2695 assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

The aforesaid assessment is also illegal and erroneous by reason of inequality in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

The assessed valuation placed upon this lot for the year 1902 was $7,000. The valuation has been increased 71 per cent. without any apparent reason. There is a wooden house on this lot on which there have been no improvements during the last year.

The value of this lot and of other real estate in the same ward and section or in the same locality with it has not increased materially since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York, for the year 1903, is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal any increase in the valuation of the said lot No. 32 in excess of 33⅓ per cent. is unfair, illegal and erroneous, and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $8,750.

CONSOLIDATED GAS COMPANY OF NEW YORK.
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verified March 28th, 1903.

2696 Block 1455, Lot Nos. 33, 34, 35, 36 and 37.

The application for 1903 recites the following:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate known as Nos. 422-32 E. 61st Street, in Volume 4 of Section 5 of the

Borough of Manhattan of the City of New York, designated on the Tax Map as Lot Nos. 33, 34, 35, 36 and 37 in Block No. 1455.

It finds that the same have been assessed on the Assessment Roll of 1903 at a total valuation of $22,500, whereas the same should not have been valued at more than $15,625, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the City.

The assessed valuation placed upon these lots for the year 1902 was $12,000. The valuation has been increased 80 per cent. without any apparent reason. These lots are all vacant and produce no income.

The value of these lots and other real estate in the same ward and section or in the same locality with them has not increased materially since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York, for the year 1903, is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal any increase in the valuation
2697 of said lots in excess of 33⅓ per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $15,625.

CONSOLIDATED GAS COMPANY OF NEW YORK.
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verified March 28th, 1903.

The application for the year 1904, as to lots 13 to 37, being all those quoted for the year 1903 with the addition of lot 22, recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate occupying the entire eastern half of the block lying between East 60th and East 61st Streets, and First Avenue and Avenue A, in Volume 4, of Section 5, of the Borough of Manhattan, of the City of New York, designated on the Tax Maps as Lots Nos. 13 to 37, in Block No. 1455.

It finds that the same has been assessed on the Assessment Roll of 1904, at a total valuation of $144,000, with improvements, and $140,000, unimproved, whereas the same should not have been

valued at more than $100,000 to be in proportion with the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessments are illegal and erroneous by reason of over-valuation and are in excess of what the property would sell for under ordinary circumstances.

They are also illegal and erroneous by reason of inequality, in that they have been made at a higher proportionate valuation than the assessment of other real estate of like character, in the
2698 same ward and section, and other real estate on the tax rolls of the City.

The value of these lots has not increased since the second Monday in January, 1902. The assessed valuations, however, have been increased all the way from 67 to 100 per cent.

In 1903, the said lots were assessed at a total valuation of $125,000. The undersigned filed an application requesting that the assessments be reduced, but no*t* reduction was made and the undersigned has instituted *certiorari* proceedings in the Supreme Court of this State to reduce the said assessments, which proceedings are now pending. There is no reason for the increase in the assessment this year to a total valuation of $144,000, with improvements.

It therefore asks that the total assessed valuation of the above lots be reduced to $100,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
(Sd.) LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28, 1904.

The application for the year 1905 is substantially the same as that for 1904.

Verification March 24, 1905.

Block 1457, Lot No. 6.

The application for the year 1906 recites the following:

Location of property,
Volume 4, Section or Ward 5, Lot 6, Block 1457.
Assessed Valuation 1906, $225,000, with improvements; $125,000, unimproved.

The undersigned represents that it is the owner of the
2699 above-described property, and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioner- of Taxes and Asessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

There is a gasholder on this plot, which can only be used for the purpose of manufacturing and store gas and which adds nothing

to the amount for which the property would sell under ordinary circumstances.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $125,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK,
(Signed) LEWIS B. GAWTRY, *V. P.*

Address, 4 Irving Place, New York City.
Verification March 29, 1906.

Block 1474, Lot No. 24.

The application for 1903 recites the following:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate known as No. — East 60th Street, in Volume 4 of Section 5 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 24 in Block No. 1474.

It finds that the same has been assessed on the Assessment Rolls of 1903 at a valuation of $20,000, whereas the same should not have been valued at more than $16,250, to be — proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

2700 The assessment is illegal and erroneous by reason of overvaluation and is in excess of what the property would sell for under ordinary circumstances.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

The assessed valuation of this lot for the year 1902 was $13,000. The valuation for 1903 is an increase of 54 per cent.

This is a vacant lot which is unimproved in any way.

The value of the said lot and of other real estate in the same ward and section or in the same locality with it has not increased materially since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of the real estate in the City of New York, for the year 1903, is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal any increase in the valuation of said lot No. 24 in excess of 33⅓ per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the amount of $16,250.

CONSOLIDATED GAS COMPANY OF NEW YORK.
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verified March 28th, 1903.

The application for the year 1904 is substantially the same as the application for the year 1903, except that paragraphs 6 and 7 are omitted.

2701 Block 1643, Lots Nos. 56, 57, and 58.

The application for the year 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate at Lexington Avenue and 116th Street in Volume 1 of Section 6 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lots Nos. 56, 57 and 58 in Block No. 1643.

It finds that the same have been assessed on the Assessment Roll of 1903 at a valuation of $47,000, whereas the same should not have been valued at more than $39,000 to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character, in the same ward and section, and other real estate on the tax rolls of the City.

Lot 56 was assessed for the year 1902 at a valuation of $16,500. The assessment for this year is an increase of 52 per cent.

Lots 57 and 58 were assessed for the year 1902 at a total valuation of $15,500. The assessment for this year is an increase of 47 per cent.

These lots are all vacant and unimproved in any way and produce no income.

The value of these lots and of other real estate in the same ward and section or in the same locality with them, has not increased materially since the second Monday in January, 1902.

2702 The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York, for the year 1903, is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal, any increase in the valuation of the said Lots Nos. 56, 57 and 58 in excess of 33⅓ per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the amount stated.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verified March 28th, 1903.

Block 1670, Lot No. 1.

The application for the year 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents it is the owner of Real Estate comprising the block bounded by 98th and 99th Streets and First and Second Avenues, in Volume 2 of Section 6 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 1, in Block No. 1670.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $500,000, whereas the same should not have been valued at more than $375,000, to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under
2703 ordinary circumstances.

There is a plant for the manufacture of gas on this lot. It is very old and has practically no market value.

The property was assessed for the year 1902 at the sum of $300,000. The assessment for this year is an increase of 67 per cent.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the City.

The total assessed valuation of Block No. 1671, which is immediately to the north of the said Lot 1670 is only $271,000.

Block No. 1691, which is about half the size of Block 1670, is assessed at $150,000. The said lot of the undersigned should be valued at no higher rate than these two blocks. The improvements on both these blocks have a much higher market value than those on the said block of the undersigned.

The value of this lot and of other real estate in the same ward and section or in the same locality with it has not increased materially since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of the real estate in the City of New York for the year 1903 is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal any increase in the valuation of the said lot No. 1 in excess of 33⅓ per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

2704 It therefore asks that the same may be reduced to the sum of $375,000.

CONSOLIDATED GAS COMPANY OF NEW YORK.
LEWIS B. GAWTRY, *Vice-Pres.*

[SEAL.]

Verified March 28th, 1903.

The application for the year 1904 is substantially the same as the one for 1903, except that paragraphs 5, 7, 8, 9, and 10 in the application for 1903 are omitted and the assessed valuation for 1904 is to be $450,000 with improvements, and $290,000, unimproved, and the following allegation appears:

"On this lot there is a plant for the manufacture of gas which is a very old one."

The application for the year 1906 recites as follows:

Location of Property, —.

Volume 2, Section or Ward 6, Lot 1, Block 1670.

Assessed Valuation 1906, $525,000, with improvements; $365,000, unimproved.

The undersigned represents that it is the owner of the above-described property, and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

There are four gas holders and a gas plant on this plot, which can only be used for the purpose of manufacturing and storing gas and which add nothing to the amount for which the property would sell under ordinary circumstances.

2705 It therefore asks that the assessed value of said premises for the year 1906 be fixed at $365,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK,

(Signed) LEWIS B. GAWTRY, *V. P.*

Address, 4 Irving Place, New York City.

Verification March 29, 1906.

Block 1682, Lot No. 11.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate located on the west side of First Avenue between 110th and 111th Streets, in Volume 2 of Section 6 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 11, in Block No. 1682.

It finds that the same has been assessed on the Assessment Roll of 1903 as a valuation of $350,000, whereas the same should not have been valued at more than $250,000 to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

The aforesaid assessment is also illegal and erroneous by reason of

inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character, in the same ward and section, and other real estate on the tax rolls of the City.

This lot was assessed for $200,000 for the year 1902. The
2706 valuation for this year is an increase of 75 per cent.

The only improvement this property consist of two gasholders. These gasholders have little or no market value.

The value of said lot and other real estate in same ward and section or in the same locality with it has not increased materially since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of the real estate in the City of New York for the year 1903, is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal, any increase in the value of said lot No. 11 in excess of 33⅓ per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the city.

It therefore asks that the same may be reduced to the sum of $250,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verified March 28th, 1903.

The application for the year 1904 is substantially the same as for the year 1903, except that paragraphs 5, 7 and 8 in the application for 1903 are omitted and the assessed valuation for 1904 is decided to be $455,000, with improvements and $220,000, unimproved, and the following paragraphs are inserted:

The value of this lot has not increased since the second Monday in January, 1902. This lot was assessed for $200,000 for the year 1902. The valuation for this year is an increase of 127 per cent.

2707 There is no reason whatever for the increase in the assessment with improvements this year of $105,000.

Verification March 28, 1904.

The application for the year 1905 is substantially the same as the application for the year 1903, except that paragraphs 5, 7 and 8 of 1903 are omitted, and the assessed valuation is recited to be $455,000 with improvements, $220,000 unimproved, and the following paragraphs are inserted:

"The only improvements on this property consists of two gas holders, which are only useful for the purposes of the present holder and which, if the property were sold, would in all probability have to be removed to make room for other improvements.

Since the second Monday of January, 1905, we have had the

property appraised by skillful real estate experts, who value the property at $192,955.

It therefore asks that the assessed value of said premises for the year 1905 be fixed at $192,955.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK,

Address, 4 Irving Place, New York City."

Verification March 24, 1905.

The application for the year 1906 recites as follows:

Location of Property, First Avenue, between 110th and 111th Streets.

Volume 2, Section or Ward 6, Lot 11, Block 1682.

Assessed valuation, 1906, $500,000, with improvements.

Assessed valuation, 1906, $275,000, unimproved.

The undersigned represents that it is the owner of the above described property and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of
2708 Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

The only improvements on this property consist of two gas holders, which are only useful for the purposes of the present owner and which add nothing to the amount for which the property would sell under ordinary circumstances.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $275,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK,

(Sgd.) LEWIS B. GAWTRY.

Address, 4 Irving Place, New York City.

Verification 29 March, 1906.

Block 1683, Lot Nos. 34 and 35.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of Real Estate known as No. —— East 112th Street, in Volume 2 of Section 6 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot Nos. 34 and 35 in Block No. 1683.

It finds that the same has been assessed on the Assessment Roll of 1903 at a total valuation of $5,000, whereas the same should not have been valued at more than $4,000 to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

2709 It is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation, than the assessment of other real estate of like character, in the same ward and section, and other real estate on the tax rolls of the City.

These lots were assessed for $3,000 in 1902. The valuation for this year is an increase of 43%.

These lots are vacant and unimproved in any way and produce no income. There is no reason for an increase in the assessed valuation.

The value of these lots and of other real estate in the same ward and section or in the same locality with them has not increased materially since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of the real estate in the City of New York for the year 1903 is about 33⅓% higher than for the year 1902. Even in such increased assessment were legal, any increase in the valuation of the said Lots Nos. 34 and 35 in excess of 33⅓% is unfair, illegal and erroneous, and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the city.

It therefore asks that the same may be reduced to the sum of $4,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verified March 28th, 1903.

The application for the year 1904 is substantially the same as the application for 1903, except that Pars. 6, 7 and 8 in the application for 1903 are omitted and that the application for 1904 alleges that the valuation for 1904 was $5,000 for each lot, and petitions

2710 that the assessments for 1904 be fixed at $4,000 for each lot.

Verification March 28, 1904.

Block 1692, Lot No. 1.

The application for the year 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate situate between 98th and 99th Streets and First Avenue and East River in Volume 2 of Section 6 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 1 in Block No. 1692.

It finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $100,000, whereas the same should not have been valued at more than $81,000, to be in proportion to the assessed

value of adjacent property and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

The aforesaid improvement is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the Tax Rolls of the City.

This lot was assessed for 1900 at a valuation of $65,000, and for the years 1901 and 1902 at a valuation of $81,000. The increase of the valuation to $100,000 is without any apparent reason. This lot is unimproved and is only used for the purpose of storing coal.

The value of this lot and of other real estate in the same
2711 ward and section or in the same locality with it has not increased since the second Monday in January, 1902.

It therefore asks that the same may be reduced to the amount stated.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

The application for the year 1904 shows substantially the same as the application for the year 1903, except that the assessed valuation for 1904 is stated to be $135,000, with improvements, and $130,000 unimproved, and the following is inserted in place of Pars. 5 and 6:

"The value of this lot has not increased since the second Monday in January, 1902, on which date it was assessed for $81,000. The valuation for this year is an increase of 66 per cent."

Verification March 28, 1904.

For 1905 the application is substantially the same as for the year 1904.

Block 1704, Lot No. 1.

The application for the year 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate located between 110th and 111th Streets and First and Pleasant Avenues, in Volume 2 of Section 6 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 1 in Block 1704.

It finds that the same has been assessed on the Assessment
2712 Roll of 1903 at a valuation of $350,000, whereas the same should not have been valued at more than $240,000, to be in

proportion to the assessed value of adjacent property and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

It is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the city.

This lot is occupied by works of the company, which have been rendered useless, as the city has condemned the land in the block above on which a part of the same system of works was located. Accordingly this land no longer has a value as a gas plant and would not sell for more than the value of the land as vacant property.

The assessed valuation of this block for 1902 was $240,000. The valuation for this year is an increase of 40 per cent.

The value of said lot and of other real estate in the same ward and section or in the same locality with it has not increased materially since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York for the year 1903 is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal, any increase in the valuation of said Lot No. 1 in excess of 33⅓ per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in
2713 the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same be reduced to the sum of $240,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

The application for the year 1904 is substantially the same as the one of 1903, except that it recites the assessed valuation of 1904 to be $350,000 with improvements, and $285,000 unimproved, and Pars. 7 and 8 of this application for 1903 are omitted and in place thereof is the allegation:

"The valuation of the improvements at $65,000 is therefore manifestly erroneous. The value of said lot has not increased since the second Monday in January, 1902."

Verification March 28, 1904.

The application for the year 1905 is substantially the same as the application for 1903, except that paragraphs 7 and 8 in the application for 1903 are omitted, and the application for 1905 recites the assessed valuation for 1905 to be $330,000 with improvements, $285,000 unimproved, and recites, "The value of this lot has not increased since the second Monday in January, 1902."

It also recites:

"The assessed valuation of this block for 1902 was $240,000. The valuation for this year is an increase of 38 per cent."

Since the second Monday of January 1905, we have had the property appraised by skillful real estate experts, who value the land at $240,295, and state that the buildings add nothing to the market value of the land.

2714 It therefore asks that the assessed value of said premises for the year 1905 be fixed at $240,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
4 *Irving Place, N. Y. C.*

Verification March 24, 1905.

The application for the year 1906 recites as follows:

Location of property, 110th and 111th Streets and First and Pleasant Avenues.

Volume 2, Section or Ward 6, Lot 1, Block 1704.

Assessed valuation, 1906, $330,000, with improvements; $285,000 unimproved.

The undersigned represents that it is the owner of the above-described property, and claims to be aggrieved by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal and erroneous by reason of over-valuation, and is in excess of what the property would sell for under ordinary circumstances.

This lot is occupied by gas works of the undersigned which have been rendered useless, as the city has condemned the land in the block above, on which a part of the same system of works was located. Accordingly, this land no longer has any value as a gas plant and would not sell for more than the value of the land as vacant property. The improvements add nothing to the amount for which the property would sell under ordinary circumstances.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $285,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK,
(Signed) LEWIS B. GAWTRY, *V.-P.*

Address, 4 Irving Place, New York City.
Verification March 29, 1906.

2715 Block 1999, Lot Nos. 1 to 27 and 39 to 64.

The application for 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of the real estate situated on Twelfth Avenue, between 132d and 133d Streets, in Volume 2 of Section 7 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot Nos. 1 to 27 and 39 to 64 in Block No. 1999.

It finds that the same have been assessed on the Assessment Roll of 1903 at a total valuation of $174,000, whereas the same should not have been valued at more than $145,000 to be in proportion to the assessed value of adjacent property, and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over valuation, and is in excess of what the property would sell for under ordinary circumstances.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section, and other real estate on the tax rolls of the City.

The total assessed valuation of these lots for the year 1902 was $116,000. The total valuation for this year is an increase of 50% on each lot. They are all vacant. The Twelfth Avenue viaduct has depreciated the value of this property, as it interferes with the light on the property, and has had the effect of lessening the value of the property adjoining to it.

The value of real estate in the same ward and section or in the same locality with the said lot of the undersigned has not increased materially since the second Monday in January, 1902.

2716 The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York for the year 1903 is about 33⅓% higher than for the year 1902. Even if such increased assessment is legal, any increase in the valuation of said lots in excess of 33⅓% would be illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the sum of $145,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

The application for the year 1904 is substantially the same as the application for the year 1903, except Pars. 5, 6 and 7 in the application for 1903 are omitted and the assessed valuation for 1904 is recited to be $180,000, and the following paragraphs are added:

"These lots are all vacant and unimproved. Their total assessed valuation for the year 1902 was $116,000. The total valuation for this year is an increase of over 60%.

"The increased assessment to $186,000 is without any apparent reason.

"The Twelfth Avenue viaduct has depreciated the value of this property, as it interfered with the light, and has had the effect of lessening the value of property adjoining it."

Verification March 28, 1904.

The application for the year 1905 is identical with the applica-

tion for the year 1904 with this exception, that the assessed
2717 valuation for 1905 is stated to be $208,500, and the following sentence is added:

"The total valuation for this year is an increase of over 79%. The increased assessment to $208,500 is without any apparent reason."

Verification March 24, 1905.

The application for 1906, including Lots 1 to 27, 39 to 64, heretofore recited, is as follows:

Location of property, Twelfth Avenue between 132d and 133d Streets.

Volume 2, Section or Ward 7, Lot 1, Block 1999.

Assessed valuation, 1906, $350,000, with improvements; $265,000 unimproved.

The undersigned represents that it is the owner of the above described property, and claims to be aggrevied by the aforesaid assessed valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessments are illegal and erroneous by reason of over-valuation and are in excess of what the property would sell for under ordinary circumstances.

These lots are all vacant and unimproved, except that a gas holder is in process of construction on the lots, which will not, however, add anything to the amount for which the property would sell under ordinary circumstances.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $265,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK,

(Signed) LEWIS B. GAWTRY, *V.-P.*

Address, 4 Irving Place, New York City.

Verification March 29, 1906.

2718 Block 2175, Lots Nos. 15, 22 and 100.

The application for the year 1903 recites as follows:

To the Commissioners of Taxes and Assessments:

The undersigned represents that it is the owner of real estate known as No. — Broadway, in Volume 1 of Section 8 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lots Nos. 15, 22 and 100 in Block No. 2175.

It finds that the same has been assessed on the assessment roll of 1903 at a total valuation of $29,000, whereas the same should not have been valued at more than $18,125, to be in proportion to the assessed value of adjacent property and in accordance with the marketable value thereof.

The assessment is illegal and erroneous by reason of over-valuation, and it is in excess of what the property would sell for under ordinary circumstances.

The aforesaid assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the City.

The assessed valuation of these lots for the year 1902 was $14,500. The assessed valuation for this year is an increase of 100 per cent.

The value of this lot and of other real estate in the same ward and section or in the same locality with it has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuations of real estate in the City of New York for the year 1903 is about 33⅓ per cent. higher than for the year 1902. Even
2719 if such increased assessment were legal, any increase in the valuation of said lots in excess of 33⅓ per cent. is unfair, illegal and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the amount stated.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

The application for the year 1904 is substantially the same as the application for the year 1903, except that paragraph 7 is omitted, and the assessed valuation for the year 1904 is recited to be $29,000 with improvements, and $28,000 unimproved.

Verification March 28, 1904.

Block 2175, Lot No. 18.

The application for 1903 recites the following:

To the Commissioners of Taxes and Assessments:

The undersigned represents that he is the owner of real estate known as No. — Broadway, in Volume 1 of Section 8 of the Borough of Manhattan of the City of New York, designated on the Tax Map as Lot No. 18 in Block No. 2175.

He finds that the same has been assessed on the Assessment Roll of 1903 at a valuation of $24,000, whereas the same should not have been valued at more than $15,000, to be in proportion to the assessed value of adjacent property and in accordance with the marketable value thereof.

2720 The assessment is illegal and erroneous by reason of overvaluation and is in excess of what the property would sell for under ordinary circumstances.

The assessed valuation of this lot for the year 1902 was $12,000. The valuation for 1903 is an increase of 100 per cent. The only

improvement on this lot is a small gas holder, which has hardly any marketable value, and the cost of which was only a few hundred dollars.

The assessment is also illegal and erroneous by reason of inequality, in that it has been made at a higher proportionate valuation than the assessment of other real estate of like character in the same ward and section and other real estate on the tax rolls of the city.

Other lots in the same block which have a market value equal to said lot of the undersigned are assessed at a much lower rate than his said lot.

Lot 1, a much larger lot, situated at the corner of Sherman Avenue and Broadway, is assessed for only $16,000.

Lots 4, 6, 8, 10, 12, 27, 29, 31, 33, 35, 37, 39, 41, 43 and 45 are assessed from $6,000 to $8,000 each.

These lots have not as great a frontage as said lot of the undersigned but have a much greater depth, and his said lot should not be assessed at a sum three times that of these lots.

The value of this lot and of other real estate in the same ward and section or in the same locality with it has not increased since the second Monday in January, 1902.

The undersigned is informed and believes that the total assessed valuation of real estate in the City of New York for the year 1903 is about 33⅓ per cent. higher than for the year 1902. Even if such increased assessment were legal, any increase in the valuation of said Lot No. 18 in excess of 33⅓ per cent. is unfair, illegal
2721 and erroneous and not in proportion to the assessment of other real estate in the same ward and section and other real estate on the tax rolls of the City.

It therefore asks that the same may be reduced to the amount of $15,000.

CONSOLIDATED GAS COMPANY OF NEW YORK,
[SEAL.] LEWIS B. GAWTRY, *Vice-Pres.*

Verification March 28th, 1903.

The application for the year 1904 is substantially the same as the application for the year 1903, except that the following is inserted in place of Par. 4:

"The assessed valuation of this lot for the year 1902 was $12,000. The valuation for 1904 is an increase of 100%. The only improvement on this lot is a small gas holder, which has hardly any marketable value."

Paragraphs 6, 7, 8, 9 and 10 in the application for 1903 are omitted.

Verification March 28, 1904.

The application for the year 1905 is substantially the same as the application for 1904, except that the assessed valuation of 1905 is recited as follows:

"$24,000 with improvements, $12,000 unimproved."

Verification March 24, 1905.

Block 2175, Lot No. 14.

The application for 1906 recites as follows:

Location of property, Broadway.
Volume 1, Section 2, Ward 8, Lot 18, Block 2175.
Assessed valuation, 1906, $36,000, with improvements; $24,000 unimproved.

2722 The undersigned represents that it is the owner of the above described property and claims *it* to be aggrieved by the aforesaid valuation, and makes application to the Commissioners of Taxes and Assessments to have the same reviewed and corrected.

The grounds of its objections are as follows:

The assessment is illegal and erroneous by reason of over-valuation and is in excess of what the property would sell for under ordinary circumstances.

It therefore asks that the assessed value of said premises for the year 1906 be fixed at $24,000.

Name, CONSOLIDATED GAS COMPANY OF NEW YORK.

Address, 4 Irving Place, New York City.
Verification.

Adjourned at 5:50 P. M. to Wednesday, October 10, at 11 o'clock.

Last Exhibits:

Complainant's 256,
State's W,
City 54.

2723 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *October* 10, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Meade.

2724 JOHN M. THOMPSON, a witness called on behalf of City, being first duly sworn, testified as follows:

Direct examination by Mr. BURR:

Q. What is your business?
A. Real estate broker and appraiser.
Q. In the City of New York?
A. Yes, sir.
Q. How long have you been so engaged in the City of New York?
A. Fourteen years.
Q. Are you familiar with real estate in the Borough of Manhattan?
A. Yes, sir.
Q. Have you sold and appraised property throughout the Borough of Manhattan?
A. Yes, sir.
Q. Have you acted as an expert in any proceedings in giving testimony as to the value of property in Manhattan?
A. Yes, sir; quite a number.
Q. Will you mention a few of them?
A. I was retained by the City in the 69th Regiment Armory site; Bellevue site, 28th and 29th Street, the Bulkhead; at Fourth Avenue and 8th Street, Rapid Transit; Harlem Hospital site; Chelsea Park, Ninth Avenue, 27th and 28th Street; North River Docks, 18th to 22d Street; and a number of school sites and street opening proceedings.
Q. Blackwell's Island Bridge?
A. Blackwell's Island Bridge, also, yes, sir; the Anchorage of Blackwell's Island Bridge; and *certiorari* proceedings for the City in the Produce Exchange Building, Mutual Reserve Fund Life Association Building. I have appraised for the estate of William Astor, Robert Goelet, John Jacob Astor, the estate of John Inman, the estate of Abram S. Hewitt, the estate of Edward Cooper, the estate of John

Roach, the estate of Nicholas Low; and I have appraised for the United States Mortgage & Trust Company, Parsons, Closson
2725 & McIlvaine; Einstein, Townsend and Guitterman; Carter, Ledyard and Milburn; Consolidated Gas Company; Sherman & Sterling, or, John W. Sherman rather; and others.

Q. Have you examined the diagram or Exhibit No. 48 in this case?

A. Yes, sir.

Q. Have you read the testimony in this case in regard to the real estate appearing upon that Exhibit?

A. Some of it, yes, sir.

Q. Are you familiar with the properties mentioned and described on Exhibit 48?

A. Yes, sir.

Q. Have you made an examination of such property?

A. Yes, sir. Part of it I made two years ago, and I then looked it over again this year and some new pieces have been added since I appraised it two years ago.

Q. Are you familiar with the value of that property?

A. Yes, sir.

Q. As such property appeared upon Exhibit 48?

A. Yes, sir.

Q. Now taking Exhibit 48, page 1, Block 1643, Lots 56, 57 and 58?

A. Yes, sir.

Q. Just give the frontage and identify it in each case. Will you locate that and give the dimensions of it?

A. Southwest corner of Lexington Avenue and 116th Street, vacant with the exception of a one-story frame shanty on the corner used as a news stand; the dimensions are 80 feet on 116th Street by 100 feet 11 inches on Lexington Avenue, containing a total area of 8,073.60 square feet.

Q. How many lots are there in that?

A. There is a fraction over three lots; three and one-fifth lots.

Q. What in your opinion is the value of that plot or parcel?

A. $84,386.40.

Q. The next parcel is Block 1642?

A. Yes, sir. Northwest corner of 114th Street and Third Avenue, two three-story brick buildings occupied as offices, and on
2726 114th Street there is a three-story brick building occupied as an office and for the sale of gas ranges. The dimensions are 25 feet 2¾ inches front on Third Avenue by 150 feet 5 inches deep on 114th Street. The first lot is 25 feet 5 inches in front by 100 feet 11 inches in depth; the second lot is 25 feet front by 100 feet 11 inches in depth.

Q. 150 feet 5 inches deep, did you say?

A. Yes, sir.

Q. In the rear?

A. Yes, sir.

Q. How many lots are there in that parcel?

A. Three lots and a small fraction.

Q. What is the value in your opinion of that parcel?
A. (See correction on P. 2747 $74,104.) $89,104.00.

By Mr. MATHEWSON:

Q. Will you state in each case whether that includes buildings where there are buildings, Mr. Thompson?

By Mr. BURR:

Q. I understood you to say in parcel 1643 there are no buildings but a news stand?

A. No, sir; it was vacant. Block 1642, land $74,104.00; (see correction on P. 2747 $59,104.00) buildings $15,000.00.

Q. Take the next parcel appearing upon page 1 of Exhibit 48, Block 870 and give the dimensions, if you please?

Mr. MATHEWSON: That is at the corner of Irving Place and 15th Street?

The WITNESS: Yes, sir.

A. Southeast corner of Irving Place and 15th Street, 84 feet wide on Irving Place, 155 feet 6 inches on 15th Street. No. 4 Irving Place, corner building, three-story and basement brownstone
2727 building. No. 2 Irving Place is a five-story brownstone building. Both of these buildings were formerly residences and have been converted into offices for the gas company. No. 124 East 15th Street, situated on the southerly side of 15th Street, distance 92 feet easterly from Irving Place, being a plot 50 x 84; improvement on westerly lot, four-story and basement brick building; and No. 124 East 15th Street is a four-story brick cellar and basement old dwelling with brownstone window lintels and coping, now used by the Consolidated Gas Company in connection with their Irving Place office. Cellar flagged and contains furnace for heating the building. Divided into two rooms, two store rooms and closets and in the rear are two toilets and one marble-topped sink with running water. First floor divided into two rooms, used as offices. Ceilings in both rooms are finished with hardwood. In the hallway of the first floor, one iron sink with running water; building heated by steam. Second floor——

The MASTER: Do you think it is necessary to go into a detailed description of the physical condition of the buildings?

Mr. MATHEWSON: No, sir.

Mr. BURR: I understand Mr. Mathewson does not care for the full description of the property. We are all familiar with the situation as it is there.

The WITNESS: All right, sir.

Q. Did you examine that property carefully?
A. Yes, sir.

Q. And what in your opinion is the value of that parcel, Block 870, giving your valuation first as to buildings, and then as to the land?

A. The land $196,491.20; buildings $27,000.

Q. Making a total of how much?

A. $223,491.20.

2728 Q. Now please turn to Block 239 on page 1 of Exhibit 48?

A. Northeast corner of Elizabeth and Hester Streets, 100 feet on Hester and 159 feet on Elizabeth. On the Hester Street front there is a two and one-half story and basement gable roof brick building setting back about 25 feet——

Q. You need not give the description——

A. All right, sir.

Q. Just describe what the parcel is, buildings and land and the dimension and the estimate?

A. Yes, sir, buildings and land. The land is $167,500.00. The buildings add nothing to the market value of the land.

Mr. BURR: I think that is all on page 1, Mr. Mathewson.

Mr. MATHEWSON: Yes, I think so.

Q. Now turn to page 2 and take up Block 972?

A. Block 972, situated on the southerly side of 15th Street, distant 350 feet westerly from Avenue B; it is an irregular shaped plot having a frontage of 13——

By Mr. MATHEWSON:

Q. Are you not mistaken in saying it is 350 feet westerly from Avenue B? Isn't it 300 feet?

A. It should be 300 feet westerly from Avenue B. It is an irregular shaped plot having a frontage of 13.25 feet on 15th Street, a depth of 106.70 on its easterly end. The property is practically vacant. The valuation of the land is $12,279.37. The buildings add nothing to the market value of the land.

Q. Now take Block 985?

A. The property has a frontage of 184 feet of Avenue C, extending back 350 feet on 17th Street and 350 feet on 18th Street. I would like to correct that description. It has a frontage of

2729 350 feet on 18th Street and 350 feet on 17th Street. It is practically vacant. It has a small frame power house and two gasometers on it. Part of it is leased as a lumber yard to Myer Hellman. There is a coal hoist on the easterly end. The value of the land is $196,000.00. The buildings add nothing to the value of the land.

Q. Now take up Block 982, on page 2 of the Exhibit?

A. It has a frontage of 206.50 feet on Avenue C; 434 feet on 15th Street and 434.87 feet on 14th Street. On Avenue C front there are one-story brick buildings. On the balance of the plot there are gasometers. The buildings add nothing to the market value of the land.

Q. What is the value of that parcel?

A. There are some other buildings. There are six gasometers altogether, several one-story brick buildings, a one and one-half story brick building; most of the buildings used as purifying buildings. The value is $240,436.58.

Q. Now the next parcel is Block 989, Lot 1, on page 2 of the Exhibit.

A. 989 has a frontage of 208 — Street and East 16th Street; there are 206 feet 6 inches on Avenue D by 191 feet on East 16th

Street *feet on Avenue D by 191 feet on East 16th Street* and 191 feet on East 15th Street.

Mr. MATHEWSON: Is that the property?

The WITNESS: 989.

Mr. MATHEWSON: I think you are giving 989, lot 26.

The WITNESS: You want those given separately? I have not got them separately.

Q. Take the property you first gave.

A. Avenue C?

Q. Yes.

A. 206 feet 6 inches on Avenue C by 235 feet on East 16th
2730 Street and 235 feet on East 15th Street.

Q. Are there buildings on that plot?

A. I have taken those buildings in the entire two parcels. I think I can separate them. Avenue C has two large gasometers and two one-story brick buildings, one of them new. That is all I have on that parcel.

Q. What is the value of that lot?

A. I will have to give you that after lunch. I have only got that totalled.

Q. You have totalled the two lots appearing on this exhibit as Block 989?

A. Yes, sir.

Q. Will you give us the total value of both, and afterwards separate them?

A. $231,058.60, land only.

Q. Take up Block 991 on the same page.

A. Which 991 is that? There are two.

Q. 991, between 15th Street, 16th Street, Tompkins Street and Avenue D.

A. Comprising the entire block between East 15th Street and East 16th Street, Avenue D and Tompkins Street, having a frontage of 206 feet 6 inches on Avenue D and 159.16 feet on East 16th Street, 226.02 feet on Tompkins Street, 251.56 feet on East 15th Street. There are several one-story buildings which add nothing to the market value of the land, the property being used principally for the storage of coal, etc. The value of land only, $115,683.27.

Q. What if any value have you added for the buildings?

A. I have said land only.

Q. You have that on your memorandum as 991-B?

A. That was 991-B that I gave you then, yes, sir.

Q. Now take the other portion of Block 991 bounded by 15th Street and 14th Street, Tompkins Street and Avenue D.

A. Comprising the entire block between 14th Street and 15th Street, Avenue D and Tompkins Street; the frontage on Ave-
2731 nue D being 206.50 feet and on East 14th Street 371.08 feet and on Tompkins Street 224.20 feet and on 15th Street 278.58 feet. The property is vacant and is used for storing coal, wagons, etc. There are some coal elevators on both 15th Street and 14th Street sides, small boiler house on the corner of Avenue D, the balance being coal sheds. Small one-story building on Avenue D

and Tompkins Street. Small one-story building on the corner of 14th Street and Tompkins Street. Small building on Avenue D and 15th Street.

Q. What is the value of that parcel?

A. Land only $167,536.92.

Q. Take Block 988.

A. Comprising the entire block between East Fourteenth Street and East Fifteenth Street, Avenue C and Avenue D, it has a frontage of 206.50 feet on each avenue and 676 feet on each street. There were quite a number of buildings on this property used for gas purposes which add nothing to the value of the land.

Q. That is the block bounded by 14th Street, 15th Street and Avenue C and Avenue D?

A. Yes, sir. Steel towers and offices, engine rooms, boiler rooms, machine shops, retort buildings and such things.

Q. What is the value of that parcel?

A. Land $370,754.63.

Q. Calling your attention to the block on page 3 of the Exhibit, will you take up Block 688, bounded by West 16th Street, 17th Street, Tenth Avenue and the marginal street?

A. Comprising the entire block with a frontage on the marginal street of 197.26 feet, on Tenth Avenue of 184 feet, on 17th Street of 357.29 feet and on 16th Street of 286.20 feet. The property is vacant.

Q. What is the value of that parcel?

A. Land $322,187.20.

Q. Take Block 689, Lot 17.

2732 A. Comprising the entire block bounded by the marginal street, Tenth Avenue, 17th and 18th Streets, having a frontage of 197.26 feet on the marginal street, 380.47 on 17th Street, 184 feet on Tenth Avenue, 451.55 feet on 18th Street. The Tenth Avenue front has a one-story brick building, extending back on both sides about 100 feet. Two steel towers in the rear of this building; in the center of the block on 18th Street, two small brick offices and a one-story brick building on 17th Street and one two-story brick building. The buildings add nothing to the market value of the land. The value of the land only, $402,347.20.

Mr. MATHEWSON: All these blocks in this vicinity you are giving as they are now improved?

The WITNESS: Yes, sir, after the City improved them. I appraised them at the time the City improved them.

Q. The next parcel is 690.

A. Comprising the entire block, marginal street and Tenth Avenue, 18th and 19th Streets. Frontage of 139.48 feet on the marginal street, 474.73 feet on 18th Street, 184 feet on Tenth Avenue—I am mistaken about its being the entire block. There are some lots out on 19th Street.

Q. What lots are out on 19th Street?

A. 150 feet easterly from the marginal street there are two lots out; 250 feet easterly from the marginal street there is one lot out; 150 feet westerly from Tenth Avenue there are two lots out.

Q. Altogether there is 125 feet out on that block, is that it?

A. Yes, sir, 125 feet out on 19th Street. There are two gasometers and one one-story brick building. On 19th Street there is also a wagon yard near the marginal street end. The land value is $413,822.52.

Q. Take Block 691.

2733 A. Located on the easterly side of the marginal street between 19th and 20th Streets, the entire block front on the marginal street; 190.08 feet on 20th Street; 119 feet on 19th Street. The plot is vacant with the exception of two disused gasometers. The value is $164,479.20. In making this statement that they are disused gasometers, they have no gas in them; I don't know that they are entirely disused, but on my two examinations there was no gas in them.

Q. I notice that in the testimony of Mr. Wheelock he gave the description of this Block 691 as being a portion of the block bounded by 11th Avenue, 19th Street and 20th Street, being 184 feet on 11th Avenue and 350 feet on each street, and in the easterly line being 184 feet.

Mr. MATHEWSON: May I say here, so there need be no confusion, that the values given by Mr. Wheelock as to Blocks 688, 689, 690 and 691 were all values for the entire blocks, before anything had been taken by the City, and the testimony of Mr. Preuss was given on the same basis, but he subsequently gave on cross-examination his values for what was left also, and this witness is giving simply the value of what is left. They are still carried on our books as real estate so long as they have not been paid for by the City and their value not fixed.

Q. You have followed in your examination of these parcels the Exhibit No. 48, have you?

A. Yes, sir.

Q. As offered in evidence here?

A. Yes, sir.

Mr. MATHEWSON: Exhibit 49, a single sheet, if the counsel will remember, shows the property before the changes were made on account of the City improvements.

2734 Q. Take up Block No. 716.

A. North side of 18th Street, 175 feet east of 10th Avenue; two old two-story brick buildings which add nothing to the market value of the land. The value of the land $36,000.

Q. Take Block 715.

A. South side of 18th Street, 150 feet east of 10th Avenue, 225 feet by 92 feet. There is an old two-story building on the property which adds nothing to the value of the land. The value of the land, $108,000.

Q. Turn to page 4 of the Exhibit and take up Block 951.

A. South side of East 20th Street, between Avenue A and First Avenue. Three-story brick stable built front and rear and on easterly side with an open court in the center. Value of land $49,000,

and the building adds to the market value of the land $10,000; total $59,000.

Q. Take the large plot between 20th and 21st Streets, First Avenue and Avenue A, Block No. 952.

A. It is the entire block front on Avenue A by 517 feet on 20th Street and 517 feet on 21st Street. On the corner of Avenue A and 21st Street is a two-story brick machinery building which is used for gas purposes, but adds about $8,000 to the market value of the land, as it could be used for other purposes. 327 Avenue A is a four-story brick building and is leased and used as a storage house. 333 is a four-story brick tenement 20-foot front, occupied by two families, employees of the gas company. 335 Avenue A is an old four-story brick building which I think is also occupied by employees of the gas company, but of this I am not sure. The value of the land is $313,520. The buildings add to the market value of the land $20,000; total $333,520.

Q. Take Block 953.

A. Comprising the entire block between 21st and 22d Streets, First Avenue and Avenue A. There is 197.50 feet frontage on
2735 each avenue and 613 feet on each street. Avenue A front is occupied by gasometers and First Avenue front by one and two-story brick buildings extending part of the way from First Avenue. The balance of the block is occupied by gasometers. 21st Street side of the property, near Avenue A, by one-story brick buildings. On the north corner of 21st Street and First Avenue is a two-story gabled building, on the street there are gasometers. Two-story building in the center of the block about 15 feet wide. The balance two and one-story brick buildings. On the corner of 22d Street there is a building used for gasometer repair shop and storage of gas stoves.

Q. Any vacant land there?

A. No, sir, except spots of it, of course. The buildings add nothing to the market value of the land and the land value is $403,000.

Q. The next parcel is Block 979 on the same page, page 4 of the Exhibit.

A. 979, comprising the entire block between Avenue A and the marginal street, 21st and 22d Streets. It has the entire block frontage on the marginal street, 197.50 feet on Avenue A, 594.58 feet on 22d Street, 760.25 feet on 21st Street, occupied by buildings used for gas purposes. Land value of the property $338,086.

Q. The next parcel is 978.

A. Comprising the entire block bounded by Avenue A and Avenue B, 20th and 21st Streets, with the exception of 23 feet by 100 feet on Avenue A. 326 Avenue A, corner 21st Street, is a four-story tenement; store on the first floor is vacant. 328 and 330 Avenue A, five-story tenements, old-fashioned houses, two families on a floor. Balance of the block used for gas purposes. Value of the land $326,518.60. The value of the buildings not used for gas purposes $12,000; total $338,518.60.

2736 Q. The next parcel is 987. That is the irregular plot between the marginal street and Avenue B, 20th Street and 21st Street.

A. It has a frontage on Avenue B of 184 feet, on the marginal street 240.10 feet, on 20th Street 238.78 feet, on 21st street 84.54 feet, and is vacant land. The land value, $83,873.96.

Q. These are all the parcels on page 4?

A. Yes, sir.

Q. Now take on page 5, Block 1090.

A. North side of 42d Street, 100 feet west of 11th Avenue, six lots. There are one and two-story brick buildings which add nothing to the value of the land. Land value $72,000.

Q. Next take Block 1071.

A. Four lots on the north side of 42d Street, 225 feet east of 11th Avenue, vacant land. Value $52,000.

Q. Take Block 1070.

A. North side of 41st Street, 200 feet east of 11th Avenue, 8 lots with one-story brick buildings on the property which add nothing to the market value of the land. Value $80,000.

Q. Now take the large parcel, Block No. 1089, between 41st and 42d Streets, west of 11th Avenue.

A. Comprising the entire block between 11th and 12th Avenues, 41st and 42d Streets, to 12th Avenue as proposed, having a frontage on 11th Avenue of 197.50 feet by 800 feet on each street. Four gasometers. Balance of the block occupied by one-story brick building used for gas purposes and one-story frame building. The buildings add nothing to the value of the land. I have three valuations on this property.

Q. Let us have them?

A. Assuming that the City owns 12th Avenue, the land value is $599,500; assuming that the gas company owns 12th Avenue and that 12th Avenue is upland at that point, the value is $779,500; assuming that the gas company owns 12th Avenue and that it is land under water, the value is $699,500.

2737 By Mr. MATHEWSON:

Q. That does not include the bulkhead and pier there, does it?

A. It does not.

By Mr. BURR:

Q. Now take the block appearing on page 6 of the Exhibit, between 44th and 45th Streets?

A. Block 1092 has frontage of 675 feet on 45th Street and 700 feet on 44th Street. This block is used for gas purposes with the exception of three tenements which are occupied by employees of the gas company. Then there is also a small frame tenement, 645 West 44th Street, which has no value. The value of the buildings on this property is $4,500. The same condition exists there. If the City owns 12th Avenue, the land value is $426,500, or a total with the buildings of $431,000. If the gas company owns 12th Avenue, the land value is $581,500, or a total with the buildings of $586,000. I have taken the figures of Mr. Wheelock and Mr. Preuss, who considered it as upland, and I have taken it as upland and have not considered it as land under water.

Mr. MATHEWSON: This does not include bulkhead?
The WITNESS: No, sir.

Q. Take the block between 45th and 46th Streets.

A. Block 1093 has a frontage of 575 feet on 45th Street and 500 feet on 46th Street. Gasometer and one-story brick buildings and frame building. One-story office building. They add nothing to the market value of the land. If the City owns 12th Avenue, the value is $332,500; if the gas company owns 12th Avenue, the value is $487,500, 12th Avenue having been treated as upland, the bulkhead not included.

Q. Take the block appearing on page 7 of the Exhibit,
2738 Block 1457.

A. 1457, the property is situated between First Avenue and Avenue A.

Q. Between 62d and 63rd Streets?

A. Yes, sir, with a frontage on the north side of 62d Street of 266.56′ and 216′ 5¾″ on 63d Street. It is occupied by two gasometers and one in process of construction. They add nothing to the value of the land. Nineteen and one-fourth lots, $154,000.00.

Q. The next parcel is Block 1455, between 60th and 61st Streets and Avenue A.

A. It has a frontage on Avenue A of 281.33 feet, 313 feet, each on 60th and 61st Streets. The property is vacant with the exception of two old frame buildings which add nothing to the value of the land. The grade of the street is very steep at this point and there is considerable rock on the plot. The value is $194,000.

Q. The next is Block 1474, an irregular piece at the corner of Avenue A and 60th Street.

A. It is an irregular parcel, northeast corner of Avenue A and 60th Street, containing about 5,230 square feet vacant. The value is $26,150.00.

Q. The next parcel is Block 1177 ap-earing on page 8 of the Exhibit, west of West End Avenue.

A. Block 1177 is a block bounded by West End Avenue, the New York Central & Hudson River Railroad, 65th and 66th Street, and has a frontage of 200.83 feet on West End Avenue, 206 feet on New York Central Railroad, 299.75 feet on 65th Street and 343.75 feet on 66th Street. One-story brick building on the plot which adds nothing to the market value of the land. The valuation is $172,-719.60.

Q. Take the other parcel on the same page, Block 1157 between 65th and 66th Streets, West End Avenue and Amsterdam Avenue.

A. It has a frontage of 200.83 feet on Amsterdam Avenue and West End Avenue and a frontage of 800 feet each on 65th and
2739 66th Streets. It is the entire block. Some small two-story brick buildings and gasometers on the property which add nothing to the marget value of the land, the land value being $602,844.00.

Q. The next piece is a small piece on the south side of 65th Street. Block 1156, between Amsterdam Avenue and West End Avenue.

A. It is 100 feet by 100 feet on the south side of 65th Street and

300 feet west of Amsterdam Avenue. Four-story brick tenement, two families on a floor, in fairly good condition. The westerly lots are vacant. Land $32,000; the buildings add to the market value of the land, $8,000; total $40,000.

Q. The next parcel appears on page 9, being the plot between 98th and 99th Streets, First and Second Avenue, Block 1670.

A. Comprising the entire block between First and Second Avenue, 98th and 99th Street, fronting 201.83 feet on each avenue, 650 feet on each street. The First Avenue frontage is vacant. The easterly portion of the property has one-story brick buildings; westerly portion gasometers. There are four gasometers, three on 98th Street and one on 99th Street. On 99th Street are small two-story brick buildings. Two of these buildings were used for gas purposes. There were quite a number of them. They add nothing to the market value of the land. The land value is $496,576.00.

Q. Take the parcel appearing on the same page bounded by First Avenue, the marginal Street, 98th and 99th Streets, Block No. 1692.

A. Comprising the entire block fronting 212′ on the marginal Street, 201.83′ on First Avenue, 270.24′ on 98th Street 370.57′ on 99th Street. This property is used mostly for the storing of coal. There is a slip on the 98th Street side extending from the East River to a point about 150′ east of First Avenue and used for dock-
2740 ing barges east of First Avenue, and at this point First Avenue has not been used except for storage of lumber, the balance being used for the slip. The southeast corner of 99th Street and First Avenue is a brick building used by some of the employees, and of no material value. The balance is vacant except for racks for holding coal. The improvements add nothing to the market value of the land. The land value is $201,358.00.

By Mr. MATHEWSON:

Q. That included no bulkhead or pier values?
A. No, sir.

By Mr. BURR:

Q. Take Block 1683, 111th and 112th Streets, First Avenue and Second Avenue.

A. Block 1683, three lots on the northwest corner of First Avenue and 111th Street, five lots on the rear on 111th Street and two lots on 112th Street, vacant with the exception of small brick building in the rear of the lot facing on 111th Street, which adds nothing to the market value of the land. The land value is $109,644.

Mr. BURR: When you spoke of parcel 1692, there is no bulkhead property there claimed by the company is there?

Mr. MATHEWSON: I merely asked the question on account of the witness' statement that part of the street was used as a slip by the Company for scows and barges.

The WITNESS: No, sir, 99th Street is used, the slip runs up 99th Street and crosses the bulkhead property.

Q. Now take Block 1682 between 110th and 111th Streets, First and Second Avenues.

2741 A. The entire block fronting on First Avenue, 475′ on 111th Street, 475′ on 110th Street. The land value $395,288. It does not take the entire block. There are two gasometers and one small building on the property which add nothing to the value of the land.

Q. The next parcel is Block 1704, being the entire block between Pleasant and First Avenues, 110th and 111th Streets.

A. Comprising the entire block having a frontage of 201.83′ each on First Avenue and Pleasant Avenue and 613′ each on 110th and 111th Streets. There are a number of small buildings on this property, two-story brick buildings, 1½-story frame building, frame shop with asphalted floors and old retort house not now in use; 1½-story building, slate roof, used as a blacksmith shop; 1½-story building on 110th Street used as a coal house. Opposite the coal house there is a small brick shop. The balance of the block is taken up with old frame shops and an old tramway structure leading to the docks which is not now in use. The entire block has been abandoned for gas use and is used by the Street Department of the gas works. These buildings add nothing to the value of the land. The value is $396,784.00. This does not include the bulkhead.

Q. The next parcel appears on Page 11, Block 1999.

A. Frontage on Twelfth Avenue of 199.83 feet, on 132d Street 675 feet, on 133d Street, 650 feet. This property is vacant. The grade of the street at this point is about ten per cent. from Broadway to Twelfth Avenue. On the Twelfth Avenue front is Riverside Viaduct and on the Broadway front is the subway viaduct. The property is from 12 to 15 feet below grade. Value $397,800.

Q. Take up Block 2175 on page 12 of the Exhibit.

A. The property is situated at Broadway near the junction
2742 of Sherman Avenue and contains about 65,253 square feet. There are no improvements on the property except a small brick house and gasometer which add nothing to the value of the land. The land value is $97,879.50.

Q. Was there any other piece that you valued?

A. None except Shady Side and the bulkheads.

Q. Now, leaving out Shady Side and the bulkhead property, what do you find the total valuation of the property to be?

A. Mr. Burr, I would like to let that go until I come back from lunch. I find my stenographer has made a typographical error in here which makes a few hundred dollars' difference.

Q. Just prepare it so you can give it, assuming that the Company owns the marginal street and takes in the other assumption you have stated.

A. Yes, sir, I have done that but there is a mistake here in some of the figures.

At this point a recess was taken until 2 p. m.

After Recess.

The Master states that he has received from Judge Lacombe the following memorandum regarding recent motions made by the defendants for certain inspection of the books:

"The motion for inspection of plant was settled by consent, complainant offering such inspection, and therefore calls for no discussion. As to the suggestion that there should be some postponement because such inspection was not accorded earlier; the difficulty is that it was not accorded sooner because the Court was not asked to intervene. As far back as the latter part of August the Cir-
2743 cuit Judge came to the city to pass upon such application (among others) but it was postponed and subsequently withdrawn. As to the books and records, the Master has full power, and the subject should be left with him, who fully understands the situation. Wherever it appears that any testimony or exhibits or tabulation introduced by complainant is founded on entries in the books, etc., such entries will of course be produced. Moreover as to any specific fact which defendants wish to show which can be shown only from entries in the books, etc., the particular entries required to prove such fact may be produced or inspection thereof allowed.

"E. H. LACOMBE,
"U. S. C. J."

Oct. 10, 1906.

JOHN M. THOMPSON resumes the stand.

Direct-examination (continued):

By Mr. BURR:

Q. Will you give the total valuation of the real estate of the Consolidated Gas Company?

A. The subdivision of Block 989, Lot No. 1, $131,527.75; Lot No. 26, $99,530.85.

By Mr. MATHEWSON:

Q. That makes a total of $231,058.60?

A. Yes, sir.

By Mr. BURR:

Q. Now will you give your total valuation of the property,
2744 Mr. Thompson, aside from Shadyside and the bulkhead property?

A. Assuming the city owns Twelfth Avenue, the value is $9,637,908.55.

In Block 1089 if the Company owns Twelfth Avenue and assuming it is upland, $180,000 added to this block. Block 1092 if the Company owns Twelfth Avenue, assuming it is upland, $155,000. In Block 1093, if the Company owns Twelfth Avenue, assuming it is upland, $155,000.

By the MASTER:

Q. That is another $155,000?

A. Yes, sir. That is Block 1093. Or a total of $490,000, and a grand total of $10,127,908.55. If the land in Twelfth Avenue in Block 1089 is land under water, deduct $80,000, leaving $10,047,908.55.

Mr. BURR: That is all.

Mr. MATHEWSON: You do not intend to examine this witness on bulkheads?

Mr. BURR: No, not now. We are going to take up the bulkheads as a separate proposition.

Cross-examination by Mr. MATHEWSON:

Q. What is your age, Mr. Thompson?

A. Forty-two years.

Q. How long did you say you had been inthe real estate business?

A. In New York City?

Q. Yes.

A. Fourteen years.

Q. Where were you in business before that?

A. Nashville, Tennessee, for about four years.

Q. Have you ever been in any partnership or firm dealing in real estate in New York?

A. I am now, yes sir, John M. Thompson& Company.

Q. Who are your partners?

A. It is a corporation. I am president of the Company.

2745 Q. Any other partner or concern heretofore?

A. Yes, sir.

Q. Will you state?

A. Why, I had a partner, Mr. Williams, that was about 1897.

Q. What Williams?

A. Mr. Edgar C. Williams, 1898 and 1899 I had Mr. Samuel Pryor. Then I was alone, I think, until my present partnership or corporation with Mr. Burton Thompson.

Q. Where is your office?

A. 212 Broadway.

Q. Have your activities been chiefly in appraising real estate or in buying and selling?

A. Why, I think it has been about equally divided, sir.

Q. Have you ever sold any bulkhead property?

A. Yes, sir.

Q. Where?

A. I was interested in the sale of bulkhead property at the corner of 49th Street and North River in this way: hat it was sold by Mrs. M. Ryan to Judge Dugro. At the time Mrs.Ryan's son Vincent O. Ryan was an employee in my office and I asisted in the sale. The property was sold under contract. The title has never passed for there is a squatter on the property, and they have not been able to get rid of him.

Q. Have you had charge of any of the sals of dock or bulkhead property?

A. I have had no other sales, no, sir, buthave had with the exception of bulkhead property in Long Islad City opposite 34th Street; those are the only cases I have had fc sale.

Q. What class of property have you been ngaged in buying and selling?

A. Why, I have sold generally, sir, busines buildings, apartment houses, residences and vacant property.

Q. What part of the Island particularly?

A. I sold all the way from I think Liberty Street on the south to—I can refer to my memorandum, sir, and tell you exactly—(after referring to memorandum) to 210th Street on the north.

2746 Q. Have you not operated more particularly in some special part of the city?

A. Why, no, sir. I should say that in a majority of my sales they have been south of 14th Street and north of 23d Street. I have not done much in the wholesale dry goods district.

Q. Will you take Block 1643, Lots 56, 57 and 58, being property at the southwest corner of Lexington Avenue and 116th Street?

A. Yes, sir.

Q. And say how you reached your figures of $84,386.40 for that appraisal?

A. I face the property on 116th Street; for one inside lot I have allowed $20,000; for the lot adjoining——

Q. That is for an inside lot?

A. Yes, sir.

Q. $20,000?

A. Yes, sir.

Q. Yes.

A. For the lot adjoining on the corner I have allowed $22,000; for the corner lot, in which I have allowed the full 30 feet frontage, $42,386.40.

Q. Did you allow any plottage?

A. In all of these figures I have included plottage in my estimate. Had the land been sold separately there would be 10 per cent. deducted from the larger plots and 5 per cent from the smaller.

Q. Isn't it customary to take the valuations of lots sold by retail, so to speak, and add to that total some percentage in order to reach plottage?

A. Well, I don't know that that is a general rule, sir. I have done it one way and I have done it the other.

Q. Do you think it is possible to take the valuations of single lots and add to them a certain amount representing plottage and then aggregate a large number of lots on that basis and reach as accurate a result?

A. Yes, sir, I think so.

Q. Will you take the next plot, Block 1642, Lots 32 and 33, northwest corner of Third Avenue and 114th Street, and say how you reached that total of $74,104?

A. Northwest corner of Third Avenue and 114th Street,
2747 2,592 square feet, $12 a square foot, $31,104. Two lots on 114th Street at $14,000 each, $28,000. There is a mistake in that sum that I have given to you before, a mistake of my stenographer.

Q. Will you make the correction now?

A. Yes, sir; the total of that land value is $59,104.

By the MASTER:

Q. Instead of $74,000?

A. Yes, sir. I see my stenographer has added in

$15,000 there twice and the buildings add to the market value of the land $15,000 making a total of $74,104. See correction p. 2726.

By Mr. MATHEWSON:

Q. That $74,104 includes the buildings?
A. Yes, sir.

By Mr. BURR:

Q. Will that change your total to that extent?
A. It will change the total $15,000, yes, sir.
Q. Less or more?
A. Less.

By Mr. MATHEWSON:

Q. Is your 2,592 square feet the area of the plot facing on Third Avenue running back 100 feet?
A. Yes, sir.
Q. And is that the basis upon which you think that the lot would sell if sold by itself?
A. Yes, sir. I should not have allowed for plottage on that plot.
Q. Isn't it a fact that where you have a plot of land like this facing on two streets running through from one street to another, or having a facing on an avenue and a street, that it is more valuable in the aggregate than it would be sold in lots. Isn't it a distinct advantage to have entrances on both an avenue and a street for a plot of that shape?
2748 A. I don't think so, no, sir; not in this special neighborhood.
Q. Don't you think an L shaped plot as a rule having an entrance on two streets or a street and an avenue has an added element of value from that very fact?
A. Yes, sir, on Broadway, Fifth Avenue and others, but not at Third Avenue and 114th Street.
Q. You think this is an exception to that rule?
A. No, sir. I think there are a great many other exceptions.
Q. That may be, but you think this is an exception?
A. I think that is an exception to the general rule, yes, sir.
Q. Are you familiar with the sales in the vicinity of Third Avenue and 114th Street?
A. Yes, sir.
Q. Have you ever made any in that section recently?
A. I have sold several in that neighborhood but as far back as 1898.
Q. That is the oldest, is it?
A. That is the oldest sale in there, yes, sir.
Q. Hasn't property largely increased in value in New York City in the real estate field in the past five or six years?
A. Very much, sir.
Q. Are you familiar with the property at the northeast corner of 114th Street and Third Avenue?
A. Yes, sir.

Q. Do you know what that sold for in 1900, in May, 1900? I refer to the plot 25 x 100, being the same size as this plot amounting to 2,592 square feet on Third Avenue, belonging to the Consolidated?

A. I have not the memorandum of that sale with me. I have it in my office; I haven't it here.

Q. Well, now, you have taken the value of the Consolidated Company's lots at the northwest corner of Third Avenue and 114th Street, facing 25 feet and a trifle over on the Avenue as $31,104?

A. Yes, sir.

2749 Q. Now, if it be true, that the lot on the northeast corner of 114th Street and Third Avenue, of the same or a little smaller size, sold in May, 1900, for $40,000, wouldn't that modify your view as to the value of a corner lot at that point?

A. Not until I had seen all the circumstances of the sale, the class of building and everything else on it.

Q. Not a very expensive class of buildings there, is there?

A. I do not know, sir; I do not recall the northeast corner.

Q. Is there any building on the northwest corner, occupied by the Consolidated Gas Company?

A. A three-story building there, yes, sir.

Q. You have not a memorandum either of the sale of 2091 Third Avenue?

A. No, sir.

Q. The corner of 114th Street, have you?

A. No, sir. I will make a memorandum of this and have that for you to-morrow.

Q. Will you take Block 870, plots 54, 56, 59 and 60, at the southeast corner of 15th Street and Irving Place, and give the details of your figuring resulting in $223,491.20?

A. Southeast corner of Irving Place and 15th Street, 2,637 square feet at $60,000 per lot or $24 per square foot, $63,288.00. The lot adjoining the corner, 2,637 square feet at $44,000 per lot or $17.60 per square foot, $46,411.20. 3,587 square feet, inside lots on Irving Place, at $40,000 per lot, or $16 per square foot, $57,392. Two lots each containing 4,200 square feet on East 15th Street, $17,500 per city lot, or $7 per square foot, $29,400. The buildings add to the market value of the land $27,000, divided as follows: Irving Place, $20,000; 124 East 15th Street, $6,000; 126 East 15th Street, $1,000.

By Mr. BURR:

Q. And what is the total?

A. The total is $223,491.20.

2750 By Mr. MATHEWSON:

Q. I see in this estimate Block 870, Lots 54, 56, 59 and 60, you have allowed for buildings only $27,000 to make up your total of $223,491.20?

A. Yes, sir.

Q. You have no idea that those buildings could be reproduced in their present condition for $27,000, have you?

A. I don't think that they can be.

Q. And aren't they, so far as you observed, employed by the Consolidated Gas Company for an office building and for its uses?

A. For the Consolidated Gas Company, yes, sir. I presume it is, as far as I can see.

Q. Why, then, don't you allow for the buildings the value of the buildings to the company as they are at present in use at their probable cost?

A. Because I am talking about as to what they add to the market value of the land and not giving the structural value of those buildings.

Q. You are assuming in other words that the land with these buildings on would be sold for some use other than the same use to which the buildings are now put?

A. I am assuming what it would sell for under ordinary circumstances.

Q. Under ordinary circumstances for the purpose of improvement in some different way?

A. That would depend on whether the man could use the buildings or not.

Q. If he could use the building, if it was useful to him just as it stood now, it would be worth more than $27,000?

A. It might possibly. It might be worth $27,000 to a man that would alter the building.

Q. You have used the expression from time to time that you have omitted buildings on the property because they would add nothing to the value of the land?

A. To the market value of the land.

2751 Q. To the market value of the land. Just what did you mean by that?

A. I mean what that land would sell for under ordinary circumstances.

Q. And it would be your view that if this land were sold with gas appliances on it that it would virtually, so far as structures go, bring the value of the land or a very little more?

A. That is my opinion, if sold in the open market.

Q. Under ordinary circumstances?

A. Under ordinary circumstances.

Q. Taking now your values on 15th Street, Block 870, what valuation do you say you placed on the street lots?

A. $17,500, that is, per city lot; they are not full city lots. The total value is $29,400.

Q. And what on Irving Place?

A. On Irving Place my unit of value is $40,000.

Q. Are you familiar with sales in that locality?

A. I am; yes, sir.

Q. Are you familiar with the sale of 131 East 15th Street?

A. I have only the Irving Place sales here.

Q. Where is 42 Irving Place located?

A. 42 and 44, 7 feet 9 inches south of 17th Street.

Q. Do you know what 42 and 44 sold for?

A. Yes, sir, for $90,000 on July 9, 1906.

Q. Two lots—not full city lots, are they. Is not 42 only 22 feet

wide and 86 feet deep, and No. 44 26 feet wide and 86 feet deep for part of the distance and 116 feet for the balance?

A. No. 42 is 22 by 86 feet 4 inches; No. 44 is 26 by 86 feet four inches on the southerly line and 116 feet 1 inch on the northerly line.

Q. What would be an average depth, do you think?

A. About 101 feet—there is more average depth than that, sir; only a small portion of that which is not 116 feet deep; there is only 22 feet on the rear end which is not 116 feet deep.

2752 Q. You said your lots on 15th Street were — $17,500?

A. Yes, sir; $17,500.

Q. What is the width, 25 feet?

A. 25 feet, yes, sir; 25 by 100. Did you ask me about a sale on 15th Street?

Q. You placed the value of the 15th Street lots at $17,500 apiece?

A. Yes.

Q. Are you familiar with the sales of 126 East 16th Street or 128 East 16th Street. They are in the next street?

A. I have the sale of 128 East 16th Street in 1900.

Q. Have you it for 1906, when it was sold to the City, this defendant?

A. No, sir, I have not.

Q. Have you the record of the sales of 125 East 15th Street or 127 East 15th Street, this same street, made to the city in 1906?

A. No, sir; I have not any record of sales to the city.

Q. Or 129 East 15th Street or 131 East 15th Street?

A. Are all those to the city?

Q. Yes.

A. No, sir. I have no record of those.

Q. If it be true that 126 East 16th Street was sold in 1906 for $40,000 with an old building worth perhaps $5,000, and 128 East 16th Street was sold for $50,000 and 125 and 127 East 15th Street were sold for $72,500 and 129 East 15th Street was sold for $30,000, and 131 East 15th Street was sold for $48,000, within the current year, would not that modify your view that the lots on 15th Street of the Consolidated Gas Company, off Irving Place, were worth $17,500?

A. Not until I knew the value of the four-story buildings which were on there and also I would consider it value, because they were bought by the city of New Yo[illegible] who always pay more than a private purchaser, to save the expense [illegible] condemnation proceedings.

2753 Q. You would not think the expenses of condemnation proceedings would be the difference between $17,500 and any such figures as I have stated?

A. I have added that there were 4-story buildings in addition to the expenses of condemnation proceedings. You have not spoken of the buildings at all, but have assumed that they were vacant lots.

Q. No, I am assuming the buildings of such general character as you know them to be in that section, and that you valued them on the same basis you valued the buildings of the Consolidated Gas Company at Irving Place and 14th Street.

A. Yes, sir, but I don't know that I would take them on the same

basis that I valued the Consolidated Gas Company buildings. A 4-story dwelling on East 15th Street will bring in a good rental.

Q. Don't you think the buildings of the Consolidated Gas Company on 15th Street and Irving Place only one block from 14th Street and half a block from Third Avenue, would bring in a good rental?

A. Not those buildings. You cannot make a residence out of it, and cannot make a business building out of it unless you spend a good deal of money on it.

Q. Well, that would be a question to be determined.

A. I am speaking of it as a real estate man.

Q. Will you take the property at the corner of Hester and Elizabeth Streets, Block 239, Lots 1 and 5, and say how you arrived at your total of $167,500 for those?

A. Two lots on Hester Street at $25,000 each, $50,000; lot adjoining the corner $27,500; corner lot $50,000; two lots on Elizabeth Street at $20,000 each, $40,000, total $167,500.

Q. You say that there are no buildings there that add to the value of the land?

A. Yes, sir.

Q. What buildings are there?

A. On Hester Street is a 2½-story and basement gable roof brick building apparently about fifty years old. In the rear is a
2754 3-story brick building which is used as a stable; also an old building.

Q. Do you mean to say those buildings are worthless?

A. To the market value of the land, yes, sir. They are absolutely inadequate improvements.

Q. In other words, you proceed on the theory that if someone bought the land they would pay the value of the land and remove the buildings to put up something else?

A. I am going on that assumption, yes, sir.

Q. But so far as those buildings are concerned, they seem to be in use now?

A. They are in use now, yes, sir.

Q. And you have not taken into consideration there the cost or value to one who can use them as they are, in giving this estimate of the value of the land?

A. No, sir, I have only taken them as to what they add to the market value of the land.

Q. Are you familiar with sales in that vicinity?

A. Yes, sir, I have recently done quite a little appraising in that neighborhood and have had reason to look up the sales.

Q. Do you know what 174 Hester Street sold for in 1905?

A. Yes, sir. I cannot tell you offhand. I took that into consideration. I have appraised 174 Hester Street not less than five weeks ago.

Q. The buildings there are practically worthless, aren't they, old three-story buildings?

A. 174 Hester Street?

Q. Yes.

A. Five-story building, isn't it?

Q. I think not.

A. I appraised it about five weeks ago.

Q. I think that 174 Hester Street is an old three-story building.

A. 174, three-story and basement brick and frame building, with three-story tenement in the rear; front and rear tenements.

Q. Do you remember what that sold for?

2755 A. I don't recall right now. I knew it at the time I made up these figures.

Q. Take now the plot on East 15th Street, irregular in shape, being Block 972, Lot 45. How do you make up the $12,279.37 which you give as the value?

A. This building has a frontage of 13¼ feet on the street by 106.70 feet, containing 1,413.78 square feet, which I have valued at $9,000 a lot, or $3.60 a square foot, making a valuation of $5,089.61. To the west of it is an interior plot containing 7,988.62 square feet, which I have valued at 90 cents per square foot or one-fourth the value of the front land, or $7,189.76, or a total of $12,279.37.

Q. Did you use any scale in estimating the value of the interior land there, not fronting on the street?

A. I did not. This is the same rule I used when I appraised the property for the company two years ago, taking them on the theory that interior property is worth one-fourth the value of front land.

Q. Do you know what 25-foot lots are worth on East 15th Street in that neighborhood?

A. I put them at $9,000.

Q. Do you know of any lots in that neighborhood that sold for $9,000 within the last year, equally well located?

Mr. BURR: What do you mean by equally well located?

Mr. MATHEWSON: I mean so far as distance from 14th Street or from the corner goes.

A. I have no sales on East 15th Street in 1906 in that locality.

Q. Your estimate then in your own view and not based upon sales in that immediate locality?

A. Based upon my opinion, sir, of two years ago, with what I think it is worth to-day. I based it on sales two years ago that were made then.

2756 Q. Property is considerably more valuable than it was two years ago, is it not?

A. Not in that special place, no, sir.

Q. Is it not generally in the city? Has there not been a very substantial rise in the City of New York in the last two years?

A. Yes, sir, it has raised all the way from 10 to 100 per cent. in localities; in some it has raised more.

Mr. BURR: Were you speaking of the City of New York or the Borough of Manhattan?

The WITNESS: Borough of Manhattan.

Mr. MATHEWSON: I also referred to the Borough of Manhattan when I speak of the City of New York.

Q. Will you take now Block 985, the stations on 17th and 18th Streets, between Avenue B and Avenue C, and say how you obtained those values of $196,000?

A. There are twenty-eight lots there, $7,000 a city lot, making $196,000.

Q. You say you considered the buildings there as adding nothing to the value of the land. Will you define the buildings which you observed there?

A. Why, the property was almost entirely vacant.

Q. But you said there was a coal office, didn't you, and that there was coal sheds?

A. Yes, sir, I gave no value to that coal office and coal sheds. I don't think they added anything to the value of the land.

Q. So, I understand; they may not have, if you were selling it for improvements in some other direction, but the coal office and the sheds were of some value to the people who were using them, presumably, were they not?

A. I presume they were of some value, but I do not see how anybody could fix a value on that coal office.

2757 Q. Just what, you could not say?

A. Why, $50.

Q. Coal sheds cost money, too?

A. Coal sheds cost money, too. They are all frame sheds.

Q. You did not take into consideration the structures there that the company was using regardless of whether they cost much or little?

A. Not where the improvement was inadequate. There are buildings I have taken into consideration which the company was using.

Q. I understand, but you considered the structures there which the Company was using as inadequate and therefore included no value at all for those in your total value of the plot?

A. No, sir.

Q. Now I want to recall your attention for a moment to the previous plots regarding which you testified. That is the irregular plot which you gave an estimate of $12,279.37, being Block 972. Are you not aware that that plot is assessed for $20,000 for taxation as against your estimate of $12,279.37?

A. I have not the remotest idea what the assessment is, not the remotest.

Q. If it be true that it is assessed for $20,000, would that modify your estimate of the value of the parcel at all?

A. Not in the slightest.

Q. Are you aware that the Block marked 985 to which you have just testified and upon which you have placed a value of $196,000, all told, is assessed for $179,000 for land only?

A. What year is this?

Q. 1906?

A. I am not.

Q. That would not affect your estimate of value if you knew that to be the fact?

A. It would not, no sir.

Q. Take Block 982, being the property facing on Third Avenue bounded by 14th and 15th Streets. How do you get your total of $240,436.58 for that plot?

2758 A. Northwest corner of Avenue A and 14th Street 2814.38 square feet at $4.15 ..... $11,679.57
Adjoining the corner of 14th Street 2813.29 square feet at $3.45 a square foot 9,705.85
Four inside lots 2813.29 square feet each, 11,253.16 square feet at $3.25 ..... 36,572.77
Adjoining the corner of 15th Street 2813.29 square feet at $3.40 a square foot 9,565.19
Southwest corner Avenue C and 15th Street 2814.38 square feet at $3.70 ..... 10,413.20
Thirteen inside lots on 14th Street, $6,900 each 89,700.00
Thirteen inside lots on 15th Street, at $5,600 each 72,800.00

$240,436.58

Q. You know sales have taken place in 14th and 15th Streets as far east — within the last year or two, don't you?

A. 14th and 15th Street-?

Q. Yes. Take 15th Street, do you know or any sale that has taken place on the basis of $5,600 per lot for a lot on 15th Street in that neighborhood?

A. There does not seem to have been a sale on 15th Street with an expressed consideration in that time, sir.

Q. How about in 1905?

A. When in 1905? There were in 1903. It is not a very active neighborhood.

Q. Are you not aware that there was a lot sold on East 15th Street between Avenue B and Avenue C, 25 by 100 feet for $11,900 in May, 1905, with an old building worth perhaps $2,500?

A. What is the number?

Q. 606 East 15th Street.

A. I beg your pardon, I have the sale here.

Q. That is $11,900, isn't it?

A. Yes, sir, with a four-story brick tenement with store in front and one-story brick tenement on the rear.

2759 Q. Do you know how much that building was worth?

A. I do not, I would have to go and look at it. I know it has two tenements.

Q. It probably is not worth more than $2,500, is it?

A. I have no idea, Mr. Mathewson, unless I look at it.

Q. Do you allow any plottage at all in this large block?

A. Just in a general way.

Q. No special percentage?

A. I would think these lots would separately — for 10 per cent. less.

Q. What did you add after you had got the value of your individual lot, selling as individual lots, to the value of such individual lot, to get the value of that lot if it went into a large plot?

A. In the neighborhood of ten per cent.

Q. You have not been familiar with the sales of any such large plots as this at one time by a single owner, have you, in that vicinity?

A. No, sir; I have not.

Q. Now it appears, if my information is correct that this plot here that you have valued at $240,000 is assessed for taxation at $275,000 for land alone. If that be correct, would that modify your view as to the value there?

A. None whatever, sir.

Q. Now, let us take the next plot. Block 989, Lot 1, facing on Avenue C between 15th and 16th Streets. How do you obtain your figures of $131,527.75 for that plot?

A.—

Northeast corner of Avenue C and 15th Street, 2840.20 square feet at $3.50 per square foot.....	$9,940.70
Adjoining the corner of 15th Street, 2839.10 square feet at $3.35 a square foot.....	9,510.98
4 inside lots, 2839.10 square feet each, 11,356.40 square feet at $3.25.....	36,908.30
2760 Adjoining the corner of 16th Street, 2839.10 square feet at $3.35 a square foot.....	9,227.07
Southeast corner of Avenue C and 16th Street, 2840.20 square feet at $3.50 a square foot.....	9,940.70
10 Street lots at $5,600.00 each.....	56,000.00
Total	$131,527.75

Q. Now, take Lot 26, Block 989, at the other end of the block?

A.—

Southwest corner of Avenue D and 16th Street, 2349.62 square feet at $3.25.....	$7,636.26
Adjoining the corner of 16th Street, 2348.71 square feet, $2.90 a square foot.....	6,811.26
4 inside lots, 2348.71 square feet each, 9394.84 square feet at $2.75.....	25,835.81
Adjoining the corner of 15th Street, 2348.71 square feet at $2.90.....	6,811.26
Northwest corner of Avenue D and 15th Street, 2349.62 square feet at $3.25.....	7,636.26
8 Street lots at $5,600.00 each.....	44,800.00
Total	$99,530.85

Q. Are you able to point to the sale of any street lots in this neighborhood for $5,600.00 each in the last year?

A. I would have to take in all these sales and analyze them. If I found any of them I would have to separate between the land and the buildings. There were no vacant lots sold in there that I remember.

Q. Now, the total of these two lots in Block 989 you have testified equals $231,058.60 as your estimate?

A. Yes, sir.

Q. Now, it appears that they are assessed for taxation at
2761 more than that, or $245,000. Does that modify your view as to their value?

A. It does not, sir.

Q. Now, take Block 991.

Mr. BURR: When you speak of it appearing that they are assessed a certain amount, are you referring to the exhibit which appears in this case as the assessment?

Mr. MATHEWSON: Yes, the exhibit was put in in this case and I think it covers the 1906 assessment

Mr. BURR: That I don't know.

Mr. MATHEWSON: Well, I am assuming so. It is barely possible that my assessment is of another year, but I am sure if it is, that it is not any higher than the present assessment. They have been rising instead of falling.

The WITNESS: Is that the smaller block, do you mean, Mr. Mathewson:

Q. Yes, the block bounded by the marginal street, Avenue D, 15th and 16th Streets. How do you get at that total of $115,683.27?

A.—

Northeast corner of Avenue D and 15th Street, 2,582 square feet, at $3.25	$8,391.50
Lot adjoining 15th Street, 2,581 square feet, at $2.85.	7,355.85
Four inside lots, at 2,581 square feet each, 10,324 square feet, at $2.75	28,391.00
Adjoining 16th Street, running through to Tompkins Street, 4,555.40 square feet, at $2.85	12,982.89
Southeast corner of Avenue D and 16th Street, running through to Tompkins Street, 4,258.80 square feet, at $3.25	13,841.10
Northwest corner of Tompkins Street and 15th
2762 Street, 3,766.50 square feet, at $2.75	10,357.87
Adjoining the corner, 3,466.40 square feet at $2.85	9,879.24
Four inside lots, 10,881.70 square feet, at $2.25	24,483.82
Or a total of	$115,683.27

Q. Now, I will ask you the same question as to that. If it be assessed at $115,000, just the figure you have given, would that modify your views as to the value?

A. No, sir, it would not.

Q. Take now the next block south of that, Block 991, Lots 1 to 47, bounded by Tompkins Street, Avenue D, 14th and 15th Streets and state how you reached your total of $167,536.92 for that?

A.—

Northeast corner of Avenue D and 14th Street, 2,582 square feet, at $3.70	$9,553.00
Adjoining the corner of 14th Street, 2,581 square feet, at $3.00	7,743.00
Four inside lots of 2,581 square feet each or 10,324 square feet, at $2.75	28,391.00
Adjoining the corner of 15th Street, 2,581 square feet, at $2.85	7,355.85
Southeast corner of Avenue D and 15th Street, 2,582 square feet, at $3.25	8,391.50
Four lots on 15th Street, at $5,000 per lot	20,000.00
Southwest corner of Tompkins Street and 15th Street, 2,178.20 square feet, at $2.75	5,990.05
Adjoining the corner of 15th Street, 2,475.70 square feet, at $2.40	5,941.68
Four inside lots on Tompkins Street, 14,596.50 square feet, at $2.25	26,092.12
Adjoining the corner of 14th Street, 3,322.50 square feet, at $2.50	8,306.25
2763 Northwest corner of Tompkins Street and 14th Street, 3,622.30 square feet, at $3.25	11,772.47
Five lots on 14th Street, at $5,600 per lot	28,000.00
Total	$167,536.92

Q. Now you put a valuation of $5,600 on the lots facing 16th Street, as I recollect it, did you not, in Block 989?

A. Yes, sir.

Q. Well, do you mean to say that the lots on 14th Street which you also placed at $5,600, as near the water as that, are no more valuable than the lots on 15th and 16th Streets?

A. As a matter of fact I think they are less valuable on account of being near the water, they are less valuable for tenement house purposes.

Q. Are not lots, generally speaking, more valuable on 14th Street than they are on 15th and 16th Streets?

A. Generally speaking, yes, sir. But this is factory property and not residential property.

Q. Well, take it either as factory or residential, is not that true, that on a broad street like 14th Street, lots are more valuable than they are on 15th or 16th Streets?

A. 14th Street for factory property would be more valuable than 15th Street, but 14th Street factory property would not be more valuable than 15th Street residential property.

Q. No, but this property is of exactly the same kind, all used by the Gas Company, is it not?

A. I am speaking of the market value and what it would sell for.

Q. For what purpose?

A. For what the neighborhood justifies, if the gas houses were not there.

Q. Can you tell whether it would go into residential or factory property?

A. From the present indications, from the trend of events
2764 over there, I would say it would go into tenement property, with the exception of the water front.

Q. Can you point out here any lots which sold in 14th Street for $5,600 within the last year or two?

A. There have been no sales of vacant lots there within the last year or two.

Q. The only way you could reach this conclusion would be by a general reasoning; you could not say anything further without analyzing the sales?

A. If it was improved property. I have sold property on the east side and negotiated, and I know what it is worth further west. It is easy enough to take the trend of values from block to block.

Q. Have you sold unimproved lots on 14th Street to the west of this?

A. I have on 15th Street, not on 14th Street.

Q. Now the total which you give is $167,535.72, and it appears that the property is assessed for $180,000 for taxation by this defendant, the City of New York. Does not that modify your views as to the value?

A. It does not. I would like to add in most of those assessments there, I think the City has assessed, allowing for the buildings also, and I am testifying to the value of the land alone.

Q. I am referring to the assessment by the City of New York of $180,000 for land only.

A. I am only saying in some of the other cases. It would not change my opinion any.

Q. In every case I have mentioned the assessed value I am giving the land only.

A. It would not change my opinion any.

By the MASTER:

Q. In your experience, Mr. Thompson, is it common in the City of New York for land to be assessed for the purpose of taxation for more than its market value?

2765 A. No, it is generally assessed less, but it is very irregular. I could take you to 44th Street, and show you where one assessor differs from another just from one side of the street to the other, where one man would be very much higher than the man across the street.

By Mr. MATHEWSON:

Q. But generally speaking the assessment for taxation is lower.

A. I cannot say it is. I am retained now in over 300 cases where the assessment is much larger than it should be.

Q. That may be, but is it not the general experience that land in New York City, in the Borough of Manhattan, is assessed at a lower rate than the actual value of the property?

A. As a general proposition, I would say yes, but there are a great

many exceptions to the rule. It is very irregular. It depends entirely on who the assessor is.

By the MASTER:

Q. Well, the fact is, is it not, that until a few years ago the assessed valuation ran anywhere from 50 to 80 per cent. of the market value, and that since the Low administration, when steps were taken looking to have property assessed at its market value, it has been assessed at a somewhat higher rate than it was before?

A. The year 1903, I think—I am striving to prove inequality now—will prove about 70 per cent.; and these very properties, a number of them, I have always thought they were assessed too high, and in fact I was retained two years ago to testify by the Consolidated Gas Company in the majority of these cases, that they were assessed too high. In 1904, I think, the assessment will show about 82 per cent.

Mr. BURR: Well, it is not disputed, and I think it is al-
2766 ready proven in the case that these assessments are disputed by the company.

Mr. MATHEWSON: Well, if your *certiorari* shows it, it shows it. I am not familiar with the *certiorari* proceedings.

By Mr. MATHEWSON:

Q. Now take Block 988, being the entire block between 14th and 15th Streets, Avenues C and D, which you have estimated at $370,754.63, and give us the analysis of that valuation.

A.—

Northeast corner of Avenue C and 14th Street, 2607.83 square feet, at $4.15	$10,822.45
Adjoining the corner of 14th Street, 2606.81 square feet at $3.45	8,993.49
Four inside lots 2606.81 square feet each, 10427 square feet at $3.25	33,888.53
Adjoining the corner of 15th Street 2606.51 square feet at $3.35	8,732.81
Southeast corner of Avenue C and 15th Street, 2607 square feet at $3.50	9,124.50
Nineteen inside lots on 15th Street at $5600 each	105,400.00
Southwest corner of Avenue D and 15th Street, 2582 square feet at $3.25	8,391.50
Adjoining the corner of 15th Street, 2581 square feet at $2.90	7,484.90
Four inside lots 2581 square feet each 10324 square feet at $2.75	28,391.00
Adjoining the corner of 14th Street, 2581 square feet at $3.05	7,872.05
Northwest corner of Avenue D and 14th Street, 2582 square feet at $3.70	9,553.40
Nineteen inside lots on 14th Street at $6900 each	131,100.00
Total	$370,754.63

2767 Q. You have taken the same value for street lots, $5,600 that you did in the other cases?

A. Yes, sir.

Q. Do you allow any special valuation for plottage here by reason of the fact that the blocks east and west of this block 988 are owned by the same owner?

A. I certainly did not.

Q. Now, I would like to know the basis on which you make your estimate of value. Is it the amount at which the lots would sell for?

A. Yes, sir; the amount for which the lots would sell for.

Q. How, at forced sale or at ordinary auction or how?

A. I have stated, sir, under ordinary circumstances, in the open market, not at forced sale, and not at auction, but what a purchaser——

Q. You mean negotiated in the usual way?

A. When a seller is willing to sell and a purchaser is willing to buy, that is market value.

Q. That would be true in the case of an auction sale. I am asking whether you refer to auction sales or negotiations?

A. I refer mostly to negotiations. Auction sales do sometimes bring the full price, but not always.

Q. Have you taken into consideration in estimating the price you think would be obtained for those lots, the character of the neighborhood and the fact that the Gas Company's plant is there?

A. Yes, sir.

Q. Have you considered the lots as sold one by one, or small plots at a time, or taken them as sold in very large plots?

A. I don't think it would ever be sold in very large plots, no sir.

Q. As a matter of fact, does not the presence of the gas plant depreciate the value of the surrounding property?

A. I think it does.

2768 Q. Well, the value of surrounding property, or the fact that surrounding property is surrounding does not affect the value of this property for use as a gas plant at all, does it?

A. Why, no, sir, I don't know that it does.

Q. In other words, the effect of the presence of the gas plant is on the surrounding property, and the property which the gas company uses is just as valuable for its purposes as though the land around it were vacant?

A. I am free to admit, sir, that if the gas companies were all going to be moved away, the property would sell for a great deal more, probably.

Q. If this property was to be sold, are you proceeding on the assumption it is to be sold for another gas works or improved on ordinary lines?

A. I am taking what it would sell for to-day. If you made the announcement to-day that the Consolidated Gas Company was going to move everything away to-mor-ow——

Q. Of course if the property is sold, and is sold for some other purpose than the making of gas, immediately upon that announce-

ment or as soon as that became known the value of this property in the market would rise?

A. If you moved them all away, yes, sir, but I am appraising that piece of property for instance with the gas company on the other side of the way. If you move them all away it is a different proposition.

Q. So the value of surrounding property which is depreciated by the presence of the gas works would not be any sure indication of the value of the Gas Company's property for the manufacture of gas so far as it is concerned, would it?

A. I have not taken that into consideration. I have only taken the values as I found them to-day. I don't know what value it would be for a manufacturing concern.

Q. That is the point. Other property does not hurt us,
2769 but we do depreciate them and therefore it is utterly unfair to take the value of that surrounding property to get the value of our property?

A. Then we would go absolutely into the realm of speculation if we speculate on what we would do if they were not there. I can only take it as it is to-day.

Q. What percentage do you think would be added to the value of the property for the purpose of sale in ordinary negotiations if the Gas Company were to announce the removal of their gas works from this vicinity?

A. That assumption would be too much of a speculation for me. I couldn't guess at it. It would be too much for me.

Q. You think it would be very large?

A. Yes, sir, I think it would be a great deal; no doubt about that.

Q. Now, take the property on West 16th Street, Block 688, Lot 21, bounded by 16th and 17th Streets and Tenth Avenue and the new marginal street which you have valued at $322,187.20, and give me the analysis of that valuation?

A.—

Northeast corner of the marginal street and 16th Street, 2,275.75 square feet, at $8.40	$19,116.30
Adjoining lots, 2,517.25 square feet, at $6.00	15,103.50
Four inside lots, 9,176.16 square feet, at $5.00	45,880.80
Adjoining the corner of 17th Street, 2,945 square feet, at $6.00	17,670.00
Southeast corner of the marginal street and 17th Street, 3,186.50 square feet, at $8.40	26,766.60
Nine lots, 16th to 17th Streets, 2,300 square feet each, at $4.50	93,150.00
Two corner lots, Tenth Avenue, $17,500 per lot.	35,000.00
2770 Two lots adjoining the corners, at $13,750 each	27,500.00
Four inside lots, 2,400 square feet each, at $5.00 a square foot	42,000.00
Total	$322,187.20

Q. What does that make the value of those interior lots on 16th and 17th Streets computed 25 by one-half the depth of the block? You have given the valuation per square foot?

A. Yes, sir.

Q. Can you tell me what value that produces for a 25-foot lot half the depth of the block?

A. 2,500 square feet, $10,500.

Q. That is the least valuable of any of the lots you have figured out in this plot?

A. No, sir, there are nine lots on 16th and 17th Streets that I have appraised at $4.50 a foot.

Q. How much would that make per lot?

A. $10,350.

Q. Are you familiar with the sale at 418 to 420 West 16th Street, between Ninth and Tenth Avenues, in April, 1902, of an irregular vacant lot, 50x118 feet, over four and a half years ago?

A. In April, 1902, yes, sir.

Q. That sold for $35,000, didn't it?

A. I have no such record. It was sold for a nominal consideration.

Q. Well, don't you take pains to follow up and ascertain the actual consideration where it is possible, in keeping yourself familiar with sales and values in Manhattan?

A. When I can do so, I do.

Q. Well, aren't you aware that that sold actually for $35,000 or at the rate of about $17,000 per full lot, as against your estimate of $10,500?

A. I am not aware of it, but I have no reason to question it. There were two five-story brick tenements on it. I have no reason to question it at all.

2771 Q. No, this was irregular and vacant at that time?

A. What time?

Q. 1902, I think, April.

A. No, sir, there were two five-story tenements. I used it in my 19th and 20th dock proceedings, a sale very much used in favor of condemnation proceedings?

Mr. BURR: In whose favor?

The WITNESS: In favor of us the city, at that time, in establishing the value of the property.

Q. I will ask you to consider that subject further before to-morrow morning and see whether you are correct in considering that the land was improved.

A. I am quite positive it had a one to three-story brick tenement. Sale of the Hamilton Bank to the National Biscuit Company. I am pretty positive, I am very familiar with the sales in this neighborhood.

Q. Are you familiar with the sale of 445 West 16th Street between 9th and 10th Avenues which was sold, I think, in June last, 25 by 92 feet?

A. In June last?

Q. Yes.

A. I haven't any sale of it in June last. It must have been at a

nominal consideration or I would have had it. I have no nominal considerations within the last year.

Q. It is suggested to me that that was sold for $13,250 with a two-story frame building of no value. If that sale be a fact, would that not affect your judgment as to the value of lots along there?

A. No, sir; not unless I knew the conditions surrounding the sale. It would not affect my judgment of the value, and their consideration would not.

Q. Take Block 689, Lot 17, bounded by 10th Avenue and the marginal street, 17th and 18th Streets, and analyze your value of $402,347.20.

2772 A.—

Northeast corner marginal street and 17th Street, 2,757.50 square feet at $8.40	$23,163.00
One lot adjoining the corner of 17th Street, 2,999 square feet at $6.00	17,994.00
Four inside lots, 9,744.84 square feet at *at* $5	48,720.00
One lot adjoining the corner of 18th Street, 2,801.50 square feet at $6	16,809.00
Southeast corner of marginal street and 18th Street, 3,043 square feet at $8.40	25,561.20
Sixteen street lots, 2,300 square feet each, at $4.50	165,600.00
Two corner lots on 10th Avenue, at $17,500 each	35,000.00
Two lots adjoining the corners at $13,750 each	27,500.00
Four inside lots, 2,100 square feet each, at $5	42,000.00
Total	$402,347.20

Q. Did you allow plottage there except in the manner that you have previously testified?

A. Only in a general way.

Q. Now, take the block next north, Block 690, bounded by 10th Avenue, marginal street, 18th and 19th Streets.

A.—

Southeast corner of marginal street, 2,018.59 square feet at $7.50 per square foot	$15,139.42
The lot adjoining on the east, 2,300 feet at $5.00	11,500.00
The next easterly lot, 2,300 square feet at $4.80	11,040.00
The next easterly lot, 2,300 square feet at $4.80	11,040.00
2773 Eight lots on 19th Street, 18,400 square feet at $4.40	80,960.00
Northeast corner marginal street and 18th Street, 2,614 square feet at $8.40	21,957.60
Adjoining lot, 2,855.50 at $6	17,132.00
Two lots adjoining, 5,340.50 at $5	26,702.50
11 lots on 18th Street at $4.50, 2,300 square feet each	113,850.00
Two corner lots on 10th Avenue, $17,500 per lot	35,000.00
Two lots adjoining corner at $13,750 each	27,500.00
4 inside lots, 2,100 square feet each, $12,500 per lot or $5 per square foot	42,000.00
Total	$413,822.52

Q. Analyze next your figure of $164,479.20 for Block 691, facing on marginal street, 19th and 20th Streets?

A.—

Northeast corner of marginal and 19th Streets, 2,470.75 square feet, at $8.40	$20,754.30
One lot adjoining corner, 2,712.25 square feet, at $6.00	16,273.50
Four inside lots, 9,831.36 square feet, at $5.00	49,156.80
One lot adjoining corner, 3,140 square feet, at $6.00	18,840.00
Southeast corner of marginal and 20th Streets, 3,381.50 square feet, at $8.40	28,404.60
Three street lots, 2,300 square feet each, at $4.50	31,050.00
Total	$164,479.20

Q. Did I understand you to say that you had been retained by the City and had testified for the City in connection with this improvement, which took a portion of these various blocks belonging
2774 to the Consolidated Gas Company?

A. I was retained by the City in the matter of 18th, 19th, 20th, 21st and 22d Streets in that proceeding. I was the third witness in the case and the other two witnesses were Mr. Kerwin and Mr. Smith; they testified; I was not called upon to testify, but I had prepared myself in the event of the death of one of them.

Q. When was this?

A. My original figures were made in 1902 and brought up to 1904, from time to time.

Q. Did you ever testify to those figures in a proceeding?

A. No, sir, I was not called upon to testify.

Q. Are the figures you have given here to-day, the 1904 figures?

A. No, sir, they are in excess of 1904 figures.

Q. You allowed for some increase in value?

A. Yes, sir.

Q. Due to the lapse of time or due to the fact that the marginal street now runs along this property?

A. Well, not only the marginal street but the ferries coming up there—I mean the railroads coming up there to 23d Street, like the Lackawanna, Erie, New Jersey Central—and improvements of that character have improved the neighborhood.

Q. That has added very substantially to the value of the property in that section?

A. I think so. Above there it has added more than it has below. I think it will do so. I have taken that into consideration.

Q. If you owned that property you would expect to sell it for considerably more on account of those improvements?

A. Exactly, sir, and I have allowed for those improvements in making my figures. I might add in all these cases I have arranged my figures as to what they would be worth after the City had taken its portion. For a marginal street I gave $21,000 for Eleventh Avenue. I would not have given more than $12,000. I am speaking of the corner.

2775 Q. Block 716, Lot 14, being a 75-foot lot on the north side of 18th Street, east of Tenth Avenue?

A. Three lots at $12,000, $36,000.

Q. Don't you allow anything for buildings there?

A. No, sir; those are old two-story buildings; they are very old.

Q. But aren't they used for any purpose?

A. I am not sure now whether the gas company uses them or not. At one time they did not, I know.

Q. Don't you know that the gas company is using them; didn't you observe that?

A. I am not positive about that. While I was there the other day I was there in an automobile and I just looked it over hurriedly, and I remembered it from when I had looked at it two years ago.

Q. You did not include any valuation for buildings in this $36,000?

A. Not for that building, no, sir.

Q. Nor for any building?

A. No, sir.

Q. Now take Block 715 on the south side of 18th Street opposite the last plot, 225 feet front on 18th Street?

A. Nine lots at $12,000 each, $108,000.

Q. Do you know of any sales of vacant lots in that section or immediately in that neighborhood at the prices you have fixed per lot, $12,000, recently.

A. I don't think there has been a sale in that neighborhood for five or six years, if anything.

Q. Now, take Lot 951, south side of East 20th Street, Lot 35, west of Avenue A, which you valued at $59,000, including building, and will you give us the details of that valuation?

A. Seven lots at $7,000 a Block, $49,000. Buildings add to the market value of the land, $10,000.

Q. What kind of buildings are they?

A. It is the Gas Company's a three-story brick stable.

Q. Covering the entire property?

A. No, sir; built from front and rear and on the east side, with an open court in the centre.

2776 Q. There are about seven lots there, aren't there?

A. Seven lots, yes, sir.

Q. And for the buildings on that you allowed $10,000?

A. Yes, sir, main building, and there was a building all the way around.

Q. That would leave for the land alone $49,000?

A. $49,000, yes, sir.

Q. Now it appears to be assessed at $50,000 or more than the appraisal of the land; does that affect your estimate of value at all?

A. No, sir.

Q. Take next block, 952, between 20th and 21st Streets, facing on the westerly side of Avenue A and which you have valued at $333,520. Please give us the details of that?

A.—

Two corners on Avenue A at $12,000 each.....	$24,000.00
Two lots adjoining corners at $10,000.....	20,000.00
Four inside lots at $9,000 each.....	36,0000.00
Thirty-two lots at $7,000 each.....	224,000.00

Then there are 34 feet more on the street, which I have valued at the rate of $7,000 a lot, which would be $9,520, a total of $313,520; to which I have added $20,000 as what the buildings add to the market value of the land, making a total of $333,520.

Q. Now, the land valued only which you valued at $313,520 appears to be assessed for taxation by the city at $340,000 for the land only, which is more than you allow both for the land and buildings which you estimated at $20,000. Does not that have some influence on your judgment as to the accuracy of your estimate?

A. None whatever.

At 4.40 p. m. adjourned to October 11, 1906, at 11 o'clock a. m.

Last exhibits:

Complainant's 256.
State's, W.

2777 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *October 11th*, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Kirby.

2778 Mr. BURR: The motion made before Judge Lacombe by the defendant, the City, was for an examination of the books of the company and for an inspection of its plant by a competent engineer. A similar motion was made by the State. This examination and this inspection were deemed absolutely necessary for the proper presentation of the defense of the defendant. We wished an equal chance with complainant to present our case to the Court. The complainant made up its case from its books, which were the sole source of information, and we wished an opportunity for a full examination of those books.

The complainant put witnesses on the stand to testify to the value of its plants. We desired an opportunity to inspect them by competent engineers so that they could testify to their value. The right to the inspection of the plants was conceded by the complainant, and the only remaining question to be determined by the Master under the ruling of Judge Lacombe is to what extent and in what manner shall we be permitted to examine the books and vouchers of the com-

plainants to ascertain what is the true cost of the manufacture and distribution of its gas and what is the true structural value of its plant. We have our accountants ready to examine the books and our engineers ready to inspect the plants.

It will be necessary that the accountants, and we now ask the Master to direct that they be permitted:

1. To examine all documents and books relating to or upon which Exhibit 94 is based.

2. To examine all books and documents relating to or upon which is based the cost of gas for some particular year between the years 1900 and 1905.

2779 3. That the accountants shall be permitted to examine all books and documents relating to or upon which the actual structural cost is based in 1884, or subsequent thereto, and also all of the books of the six companies which in 1884 joined together as the Consolidated Gas Company.

For these purposes will be required the following books:

For the Actual Cash Cost of Gas.

The operating ledger for 1905 and all subsidiary books and documents from which its entries are made.

Also the operating ledger and all subsidiary books and documents for a selected year subsequent to 1900, from which its entries are drawn.

For the Actual Structural Cost of the Gas Works.

The general ledger or ledgers since 1884 and all subsidiary books or documents from which its entries are drawn.

If necessary, the investigation of these general ledgers and subsidiary books and documents can be confined to the following principal accounts, together with their subsidiary repairs and new construction accounts, and all books, vouchers and documents from which their entries are drawn:

1. Real Estate.
2. Manufacturing and Distributing Plant.
3. Gas Holders.
4. Mains.
5. Service Pipes.
6. Meters.
7. Miscellaneous Apparatus.

2780 Now I understood at our conference yesterday that I was to make this request upon the record and Mr. Garver, representing the complainant, was to state to what part of that request he would accede, and then that we would ask a ruling by the Master upon those parts which were refused.

Mr. MATHEWSON: Does this include the requests for Attorney-General Mayer and the Gas Commission-s and the other defendants other than the City?

Mr. KIRBY: We make such a request.

The MASTER: Do I understand that you unite in the request made by Mr. Burr and that it is identical in all respects; in other words, that you want the same books and for the same years and to the same extent that are specified in Mr. Burr's motion?

Mr. KIRBY: We do so unite. We do not feel the present great necessity for the examination of all the documents which Mr. Burr suggests, but we do consider that such an examination will be necessary before a determination of this hearing, so that we join in *at* the request at this time. The State, specifically, at this time, desires permission to examine all books and documents of any kind going to make up the statements set forth in any of the exhibits of the complainants and especially in reference to Exhibit 94 and the exhibit relating to repairs and renewals from 1884 to the present.

The MASTER: Do you want to have anything about this on the record now, Mr. Mathewson, or do you prefer to wait until it is written out?

Mr. MATHEWSON: I prefer to wait until this is written out so I can see what is really requested. I will merely say now that the right of defendants to an inspection of complainant's plants is not conceded and has not been conceded. We have given the right to such an inspection, but I do not wish it to appear that we concede that as a matter of right, because we do not. As to the re-
2781 quests before the Master, I would like to see them in form and then present any considerations to the Master before they are formally passed upon.

Mr. BURR: May I suggest that the time is limited and if the stenographer could have that written out by the time we come back at recess, so we could have a ruling upon it this afternoon, it would expedite the matter, as the time is extremely limited and our people are ready to proceed with the examination.

The MASTER: Then after Mr. Mathewson has indicated to what extent this can be arranged by stipulation, I will take up the matters that still remain in issue and dispose of them.

Mr. KIRBY: I take it that even now there is no objection to our going ahead with an examination of those items going to make up the statement Exhibit 94.

The MASTER: I have so understood.

Mr. KIRBY.: And that being so, we can start in this morning, as I take it, in that part of the examination. Mr. Mathewson is in accord with that, is he not?

Mr. MATHEWSON: No objection to that except that I would have to instruct the company's subordinates on the subject.

Mr. KIRBY: Then is it your desire that we should not start in this morning?

Mr. MATHEWSON: I think I can arrange by telephone that you can start in on that.

2782 JOHN M. THOMPSON resumed.

Cross-examination by Mr. MATHEWSON (continued):

The WITNESS: On page 2745, the 12th line from the bottom, strike out "no appraisements," and insert "but have had appraisements."

Page 2747, the 8th line from the bottom, change the word "should" to "should not."

Page 2748, 15th line from the bottom, change "not much" to "very much."

Page 2752, 21st line from the bottom, change "my sales" to "any sales."

Page 2753, 13th line from the top, change "building" to "dwelling."

Q. Returning for a moment to page 3 of Exhibit 48, and taking Block 715, Lots 51 to 59, you refer to buildings thereon which you did not value, as you considered them to add nothing to the value of the land?

A. Yes, sir.

Q. What were those buildings?

A. There was just one two-story building there.

Q. What was it used for?

A. At one time it was used for gas purposes. As I told you yesterday, I am not sure whether it is being used now or not.

Q. Do you know for what gas purposes?

A. I do not. Shops, I think.

Q. Now, it is testified by other witnesses that that building was formerly used as a cover for holders or tanks. Did not you make sufficient examination of it so that you ascertained its use?

A. No, sir; I looked at it exteriorly and was satisfied by the exterior appearance that it could not be used for other purposes than gas purposes, and it was not necessary to ascertain its actual use.

Q. Where did you get the idea it was used for shops?

A. That is my recollection of what I gained from my examination in 1904.

2783 Q. Will you now take Block 953, being the entire block between 21st and 22d Streets, First Avenue and Avenue A, and state how you made up your valuation of $403,000?

A.—

2 corners on Avenue A at $12,000 ea.	$24,000.00
2 lots adjoining corners at $10,000 ea.	20,000.00
4 inside lots at $9,000 each	36,000.00
2 corners on First Ave. at $15,000 ea.	30,000.00
2 lots adjoining corners at $11,000 ea.	22,000.00
4 inside lots at $10,000 ea.	40,000.00
33 street lots at $7,000 each	231,000.00
Total	$403,000.00

Q. Do you know of any unoccupied lots in that section that were sold for $7,000 within the last year?

A. No, sir; as I have stated, there have been very few sales of vacant lots in that neighborhood for some years.

Q. Are you not aware that No. 437 East 18th Street, lot 25 by 92 feet, sold as long ago as 1902 at $9,000, with only sheds on it, as against your present valuation of $7,000 for a street lot four years later?

A. That building was sold, sir, on April 30th, 1902, with a two-story brick front and rear building by M. Duffy, Trustee, to the American Carbonate Company, who are now using the building.

Q. 437 East 18th Street?

A. 437 East 18th Street.

Q. And is that the character of building that was on there in May, 1902?

A. Yes, sir; April or May, whatever time it was.

Q. Do you remember the building yourself?

A. Not in 1902, but I remember it when I appraised it for the gas company, and this was one of the sales I used.

2784 Q. I am talking about the condition in 1902. Is it not a fact that there were nothing but sheds there in 1902?

A. No, sir, it is not a fact.

Q. Where do you get your information?

A. From the *Real Estate Record and Guide*, a transfer taken from the *Real Estate Record and Guide*, which gives every character of improvement.

Q. At that time?

A. At that time. The record reads, being a transcript from the *Record and Guide:* "North side, 115 feet west of Avenue A, 25 by 92, two-story brick front and rear building, M. Duffy, Trustee, to the American Carbonate Company, April 30th, 1902, $9,000."

Q. Has property increased in that neighborhood in value in the last five or six years?

A. I think it has, yes, sir.

Q. Are you not aware that lots 515 to 521 East 17th Street sold at the rate of $7,000 six years ago, in 1900?

A. Will you give me the date in 1900?

Q. November, 1900, I think.

A. Yes, sir, four lots sold there in November, 1900, for $30,000, $7,500 each.

Q. And if there has been an increase in value in that section, they ought to be worth more now, ought they not?

A. More than $7,500?

Q. Yes.

A. No, I do not know the circumstances under which that sale was made for $7,500. And one sale does not——

Q. But generally speaking, you say that land in this vicinity has increased in value?

A. Yes, sir.

Q. And your present estimate is $7,000 per city lot?

A. Yes, sir.

Q. Let me call your attention to the further fact——

A. This is one sale.

Q. Certainly. That this entire block 953 which you estimate at $403,000 is assessed for taxation at $500,000 by the city. Does not that modify your judgment as to value?

A. None whatever, sir.

2785 Q. Take next, if you please, the block bounded by Avenue A, 21st Street, 22d Street and the marginal street, being Block 979, and state how you reach your valuation of $338,086 for that.

A.—

2 corners on Avenue A, $4.60 a sq. ft.	$23,000.00
2 lots adjoining the corner, $3.50 sq. ft.	17,500.00
4 inside lots on Avenue A, $3.40 sq. ft.	34,000.00
42 street lots at $5,600 each	235,200.00
2 gores on corners of marginal street, 7,885 sq. ft., at $3.60	28,386.00
Total	$338,086.00

Q. Now this entire block which you estimate at $338,086.00 appears to be assessed for taxation by the city, land only, at $351,500.00 or considerably more than your estimate of the full value. Does that affect your judgment as to the value at all?

A. None whatever, sir.

Q. Take next the block bounded by Avenue A, 21st Street, 20th Street and Avenue B, being Block 978, and state your analysis of the total of $338,518.60, which is your estimate.

A.—

Northeast corner of Avenue A, 2,500 sq. ft., at $4.60	$11,500.00
Lot adjoining the corner, 2,500 sq. ft., at $3.50	8,750.00
1 inside lot, 1,900 sq. ft., at $3.40	6,460.00
529 sq. ft. in the rear at $3.40	1,798.60
2 inside lots, 2,100 sq. —, each, being 4,200 sq. ft., at $3.40	14,280.00
Lot adjoining the corner of 21st Street, 2,500 sq ft., at $3.50	8,750.00
Southeast corner of Avenue A and 21st Street	11,500.00
2 corners on Avenue B at $10,000 each	20,000.00
2786 2 lots adjoining the corners at $7,500 each	15,000.00
4 inside lots, 8,400 sq. ft., at $2.40	20,160.00
37 1-5 lots at $5,600 each	208,320.00
Total	$326,518.60
No. 326 Avenue A, corner 21st Street, 4-story tenement, store on the first floor	$4,000.00
Nos. 328-330 Avenue A, 5-story tenement, 2 families to a floor, $4,000 each	8,000.00
Making a grand total of	$338,518.60

Q. In other words, you have added $12,000 to your land value for the buildings that are not used in the manufacture of gas?

A. Yes, sir.

Q. Do you suppose those buildings could be reproduced for $12,000?

A. No, sir.

Q. You have not taken, then, in any of your estimates where you have included a building value, either the original cost of construction of the building or the value of the building to the users as it is now used, but only the value of the buildings which you think would add to the selling value of the land?

A. No, sir, I have taken its rental value, just what it would add to the value of the land, taken on a rental basis.

Q. But not on the original cost of construction?

A. No, sir.

Q. Nor the value which it may be to the users for the particular use to which it is put?

A. No, sir. I might add that the gas company rents some of these buildings.

Q. That is all on the record. That is understood. What
2787 did you say you considered lots on the interior were worth for this particular Block 978?

A. $5,600 each.

Q. Why do you put down $5,600 there as against $7,000 for the blocks westerly between Avenue A and First Avenue?

A. Because this is strictly a gas house district; there are four blocks occupied by the Consolidated Gas Company.

Q. But is not the Block 953 also occupied by the Consolidated Gas Company?

A. That block is farther west, one block farther west; a very much better block.

Q. So that if this property were to be sold here and not used as a gas manufacturing plant, and it were understood that it was to be sold for the purpose of general improvement, it would bring more than $5,600 a lot, wouldn't it?

A. I stated yesterday that I thought it would.

Q. Let me call your attention to the fact that the land in Block 978 which you value at $326,518.60, is actually assessed for taxation at $369,000, as appears in evidence. Doesn't that modify your view?

A. No, sir.

Q. Will you now analyze Block No. 987 which you have estimated at $83,873.96?

A.—

Northeast corner of Avenue B and 20th Street.....	$10,000.00
Adjoining the corner of 20th Street.....	7,500.00
4 inside lots, 9,140 sq. ft., at $2.40 sq. ft.....	21,936.00
1 lot adjoining the corner 21st Street, 2,899.25 sq. ft., at $3.00.....	8,697.75
Southeast corner of Avenue B and 21st Street, 2,375.50 sq. ft., at $4.00.....	9,502.00
Gore on corner of marginal and 20th Streets, 4,699.44 sq. ft., at $3.20 sq. ft.....	15,038.21
2 lots on 20th Street, at $5,600 each.....	11,200.00
Total	**$83,873.96**

2788 Q. Now I call your attention to the fact that this property which you have estimated at $83,873.96 is assessed land only, at $86,000. Again does that effect your view?

A. It does not, sir.

Q. Let me call your attention to the fact that every one of the six parcels on page 4 of Exhibit 48, that is to say, Blocks 951, 952, 953, 979, 978, and 987, are each and every one assessed for taxation, land value alone, at a higher figure than you have given for the value of the land. Does not that circumstance, taking all the blocks together, lead you to think you under-valued property in that section in this estimate?

A. It does not, sir. In fact, I know I have not under-valued it.

Q. Well, that is a matter of opinion. I wouldn't say I knew, because we are mistaken on matters of opinion. What you mean to say is you think you have not under-valued it, don't you?

A. And in the opinion of a great many others besides myself.

Q. That may be, but they are not on the stand now, however. Isn't it true that in taking four or six blocks contiguous as these are there is a considerable value added by reason of the fact that they are contiguous and in the hands of a single owner for the uses of that owner?

A. No, sir, I have allowed nothing for that.

Q. You haven't any idea that if the gas company were to endeavor to procure plots of equal size on the river, contiguous at or about this point, they could be procured for the figures which you estimated as the present value of the land there, have you?

A. Why, I could only answer that by saying there are no such blocks in the City of New York. They could not get a vacant block; they would have to buy the buildings in a number of instances.

Q. Yes, upon the land values only.

A. Not if the buildings added to the value of the land, sir. They would have to pay for them.

2789 Q. You do not think, do you, that the land alone in this section could be acquired at the figures that you have placed as the land values for this company for its uses as a gas property, excluding values of buildings?

A. Again, sir, that is too much in the realm of speculation. There is no such block to-day to be purchased there. It is a question whether the Consolidated Gas Company would be next to it or not. It is impossible for me to answer that.

Q. Assuming this was not used now for gas purposes, but was used for the purpose of general improvements and tenements, whatever you find surrounding there, do you then think that the property, if it were so used and found so in use, could be acquired for the figures that you have placed on it here?

A. I do not.

Q. Will you now take Block 1090, page 5 of Exhibit 48, and state how you arrived at the total of $72,000 for that block?

A. Six lots at $12,000 a lot, $72,000.

Q. What buildings are there on Block 1090 which you say add nothing to the value of the land?

A. There are one-story and two-story brick buildings, used, I think, as offices.

Q. Why don't they add anything to the value of the land?

A. Because they are absolutely inadequate improvements.

Q. Except for the use of the Consolidated Gas Company, I suppose?

A. I suppose they find it adequate, sir. It is not adequate to the land.

Q. Not adequate to some other kind of improvement to the land, is it?

A. No, sir. My definition would be it is not an adequate improvement for the land.

2790 Q. Wouldn't it depend entirely upon what the land was used for? If you have a plot of land used for coal storage, and you have to have that covered by sheds, and it is so covered, it is adequately improved, so far as that use of the land is concerned, is it not?

A. In this case I do not consider it adequately improved for anybody. There are 150 feet, and on that there are a couple of little two-story buildings, and the value of the land is as much as $72,000.

Q. Do you know what the buildings are used for?

A. One is a stable, and the other is an office, a coal office, I think, according to my recollection. I have not gone carefully into these buildings. When I decided that they were inadequate I did not go into the absolute use of each one, but I think this was a coal office.

Q. Now, make the same analysis as to Block No. 1071, which you appraised at $52,000?

A. Four lots on 42d Street, at $13,000 a lot, $52,000.00.

Q. Why do you make a difference of $2,000 a lot between Block 1090 and 1071?

A. One is between Eleventh Avenue and Twelfth Avenue, the cheaper property; and the more expensive property is between Tenth and Elev-nth Avenues. The difference is in the blocks.

Q. Isn't that wholly due to the fact that 1090 is nearer the gas plant?

A. No, sir, it is not.

Q. Isn't property nearer the river worth more than it is between Eleventh and Tenth Avenues?

A. No, sir, it is not.

Q. Is that a result of actual transactions there, or your estimate?

A. Actual transactions, yes, sir, and negotiations, appraisements, and a study of the situations.

Q. Will you take now Block 1070?

A. I might add that the gas company across the street does not help it any.

2791 Q. No, I suppose not; but you don't think that it hurts the gas company's property for the use of a gas company?

A. No, sir. Eight lots at $10,000 each, $80,000.

Q. Why $10,000 for those as against $12,000 for Block 1090 and $13,000 for Block 1071?

A. Because one is on 41st Street and the other is on 42d Street.

Q. Isn't the fact that Block 1090 is comparatively near a ferry at 42d Street a point in its favor, when you come to valuation?
A. Are you comparing 1070 and 1090 now, sir?
Q. 1071 and 1090?
A. It is a point in its favor, yes, sir.
Q. If it is nearer than Block 1071 substantially, wouldn't that indicate it was of as great a value in 1090 as in 1071?
A. No, sir, I don't think so, sir. I think the Tenth and Eleventh Avenue block is a better block.
Q. We will now take Block 1089, bounded by 41st and 42d Streets, Eleventh Avenue and the river. You first make an estimate of value of $599,500, if the city owns Twelfth Avenue; $779,500 if the company owns it and considers it as upland; and $699,500 if the company owns the avenue and it is considered as under water. Now, as a matter of fact, isn't practically the entire plot filled in up to the bulkhead line?
A. Yes, sir. I have so ascertained this morning.
Q. So it would be more proper to consider that as upland than land under water, would it not, in considering it?
A. I would like to state that I have discovered, furthermore, that the gas company does not own Twelfth Avenue and never did own it. The grant does not call for it.

2792 Q. That, again, is a conclusion. You are simply, as an expert, making statements upon a hypothetical situation. I do not think your testimony is very competent on that point?

Mr. BURR: Do you claim the company does own Twelfth Avenue?

Q. Didn't you find the company in possession of the property?
A. Yes, sir.
Q. And using it?
A. Yes, sir.
Q. Fenced in?
A. Yes, sir, but the grant does not give it to them.
Q. Do you know how many years they have used it?
A. A good many years.
Q. Do you know whether they have used it long enough to own it by adverse possession if they had not any deed at all?
A. I believe the case is on appeal now.
Q. Well, you don't want to decide the case in advance, do you?

Mr. BURR: Will you answer the question as to whether they own it?

Mr. MATHEWSON: Yes, it is certainly claimed the company owns Twelfth Avenue.

Mr. BURR: And that is the only claim the company has to it, adverse possession?

Mr. MATHEWSON: No, I do not say that at all, Mr. Burr.

Q. Now, you gave your dimensions, when you gave your valuation, as 801 feet or 800 feet on 41st and 42nd Streets. That takes you only to the westerly line of the projected Twelfth Avenue, does it?
A. Yes, sir, that is correct.
Q. And between that and the bulkhead line there were 250 feet?

A. That's right; 1,050 feet taken.

Q. Did you make an estimate of the entire 1,050 feet?

A. Yes, sir.

2793 Q. You did not in the $599,500.00 estimate, of course?

A. No, sir, but I did it in the next case where I assumed them to be owned by the gas company.

Q. Well, now, I will repeat my question: However it is to be considered, having been virtually filled in, all of it, up to the bulkhead line, it would be considered as upland rather than as land under water?

A. Yes, sir. It is not land under water.

Q. And you say you have not made any estimate at present of the value of that pier or of the privileges in connection with the bulkhead or the pier?

A. No, sir, I have not been able to get the information necessary. I am trying to get it to-day.

Q. Has not property in this neighborhood increased quite largely in the last few years in value?

A. I think there has been an increase over there, yes, sir.

Q. You haven't given the analysis yet, have you?

A. No, sir.

Q. Will you give me your analysis of this large Block 1089, leaving out the estimate of the value of the property within the line of projected Twelfth Avenue as under water, in view of the fact that it is found to be upland?

A. Northwest corner 41st Street and Eleventh Avenue, 2,469 square feet, $15,000; lot adjoining corner, $11,000; four inside lots, at $10,000 each, $40,000.

Q. That is on the value?

A. That is on Eleventh Avenue, yes, sir.

Lot adjoining corner 42d Street	$12,000.00
Southwest corner of 42d Street and Eleventh Avenue	17,500.00
28 lots on 42d Street, $11,000 each	308,000.00
28 lots on 41st Street, at $7,000 each	196,000.00
Total	$599,500.00

2794 If the City owns Twelfth Avenue. If the gas company owns Twelfth Avenue, add to this 10 lots at $11,000 each, $110,000, and 10 lots each at $7,000, or $70,000, or a total of $180,000, and a grand total of $779,500.

Q. Now, you have not added anything to your valuation by reason of the fact that the company owns the bulkhead rights, also owns the land adjoining, have you?

A. I have taken that into consideration, yes, sir.

Q. Have you taken into consideration plottage, except in the manner which you previously testified?

A. In no other way, sir.

Q. Are you familiar with the sale of 537 and 539 West 40th Street, in November, 1901?

A. I am familiar with it. No, sir, I have not the sale in 1901.

Q. Have you a record of the sale of 550 West 40th Street in 1901?

A. I have No. 537 in 1900, sir, and I have 537 in 1901, but not 537 and 539 in 1901.

Q. What was the improvement on that property, No. 537, according to your information?

A. In 1901 there was a one-story frame building, sheds, etc., and coal yards; that was 40th Street, however, wasn't it?

Q. Yes, sir.

A. A different street, too.

Q. 40th Street.

A. Yes, sir.

Q. What value did you put on the side lots facing on 41st Street in Block 1089?

A. $7,000, facing the stock yards.

Q. Have you the selling price of No. 537 in 1901, of the one-story shed to which you referred?

A. Not in 1901. I only have that in 1900.

Q. What was the selling price then?

A. I have just stated, $8,000.

Q. You say the property has increased in that neighborhood in value since?

A. Yes, sir.

Q. You have only given a value of $10,000 here?

A. Yes.

2795 Q. This latter for Eleventh Avenue lots?

A. Yes, sir, that is right, sir; 40th Street and Eleventh Avenue are not comparable.

Q. 40th Street and Eleventh Avenue?

A. Lots on 40th Street and lots on 11th Avenue are not to be compared.

Q. No, I suppose not, but you have figured your inside lots on 41st Street at how much again?

A. On 41st Street at that point $7,000, but it is very different from 40th Street in the other block. These lots on 41st Street face the stockyards.

Q. Does not the fact that a lot six years ago sold on 40th Street for $8,000, and there has been a general increase since, modify your estimate that the lots on 41st Street are now worth only $7,000?

A. No, sir, for at this point on 41st Street six years ago lots would not have sold at $7,000 or anything like it; they are lots right opposite the stockyards. They would have brought nearer $5,000.

Q. Now take page 6 of Exhibit 48 and give me the analysis of your values of $426,500 for Block 1092 if the City owns Eleventh Avenue, and $581,500 if the company owns it.

A.—

28 lots on 44th Street, at $8,000 each	$224,000.00
27 lots on 45th Street, $7,500 each	202,500.00
Total	$426,500.00

$4,500 added for the buildings making $431,000. If the gas company owns Twelfth Avenue, to this should be added

10 lots on 44th Street, at $8,000 each..... $80,000.00
10 lots on 45th Street, at $7,500 each..... 75,000.00

a total of $155,000, or $581,500, to which is added the $4,500 for the buildings, making $586,000.

Q. If the company owns Twelfth Avenue, do you think
2796 that all those lots right up to the bulkhead line should be considered as interior lots and valued in that way?

A. Yes, I have taken this and given what I thought was a fair average value there together.

Q. Considering the distance of 44th Street from the principal crosstown street, 42d Street, to be two blocks, and 41st Street to be only one block, don't you think that there is a disparity when you give an interior lot on 41st Street, as you did in reference to the previous plot, at $7,000, and an interior lot on 44th Street as more valuable, to wit, $8,000?

A. No, sir, because, as I have stated before, on 41st Street there is a great nuisance there in the way of stock yards; an exceedingly great nuisance, which would render those lots less valuable.

Q. Is that all it does, render them less valuable?

A. In my opinion, yes, sir.

Q. Assuming the neighborhood to be the same, lots on 41st Street——

A. The neighborhood cannot be the same with stock yards there.

Q. I say, assuming the neighborhood to be the same, under similar conditions you would say that lots on 41st Street would be more valuable than lots on 44th or 45th Street, wouldn't you?

A. I think they would, yes, sir, in the absence of the stock yards.

Q. Now take Block 1093, and give your analysis of the figures $332,500 if the city owns Twelfth Avenue and $487,500 if the company does?

A.—

23 lots on 45th Street at $7,500 each..... $172,500
20 lots on 46th Street at $8,000 each..... 160,000

Total $332,500

If the company owns Twelfth Avenue, to this should be
2797 added on 45th Street, ten lots at $7,500 each, or $75,000; on 46th Street, ten lots at $8,000 each, $80,000; total, $155,000; or a grand total of $487,500.00.

Q. Why do you take $8,000 as a valuation of lots on 46th Street and $7,500 as the value of interior lots on 45th Street?

A. Because the character of improvement on 46th Street is better than those on 45th Street—on the north side of 46th Street.

Q. In other words, it is because 45th Street cuts the company's gas property, while 46th Street has only one side occupied by the gas works, which makes the difference?

A. Well, the easterly end of the block on 46th Street does not belong to the gas company and is improved.

Q. Is not the same true between 44th and 45th Streets?

A. Yes, sir, but there are a little better improvements at 46th

Street on the south side and very much better improvements on the north side.

Q. If the whole property were to be disposed of and not used thereafter as a gas plant, then the blocks on 45th Street would be just as valuable as on 46th Street, wouldn't they?

A. They probably would be, yes, sir.

Q. Now I ask you again, do you think it is fair to estimate to take interior lots, the lots on the bulkhead line, as considerably more valuable than interior lots as a rule?

A. I have taken that into consideration. They are more valuable, but I have taken that into consideration and given a general average value.

Q. But you took the same general average that you take for the assumption that the company did not own Twelfth Avenue, haven't you?

A. For the value of those lots, yes, sir. In that respect I have given the benefit to the company.

Q. I do not quite see that you have, but perhaps so. Now
2798 take page 7 of Exhibit 48, Block 1457, lot 6, which you valued at $154,000, I think it is, and give me your analysis of that figure.

A.—

19¼ lots, at $8,000	$154,000.00

Q. Will you likewise give me the analysis of your figures for $194,000 on Block 1455, Lot 13?

A. —

2 avenue corners, at $15,000	$30,000.00
2 lots adjoining corner, at $11,000	22,000.00
4 inside lots, at $10,000 each	40,000.00
17 street lots, at $6,000 each	102,000.00

Q. Referring to your valuation of lots on Block 1457 and 1455 at $8,000 and $6,000 for street lots, are you familiar with the sale of 417 East 59th Street in 1902?

A. Yes, sir.

Q. What did that sell for?

A. Lot 25 by 100 feet 4 inches, a four-story brick tenement, sold for $20,000, on East 59th Street.

Q. Do you know what No. 1108 First Avenue, between 60th and 61st Streets, 25 by 100 feet, sold for last year?

A. I probably do, as I testified in the Blackwell's Island case there. I think I bought that for the City. Did you say First Avenue or Avenue A?

Q. First Avenue.

A. Oh, I beg your pardon, then I was mistaken. Is it 1108?

Q. Yes.

A. No, sir, it must have been a nominal consideration, as I haven't it.

Q. Well, your values on the acquisition of the approach to Black-

well's Island Bridge were considerably higher than those you have testified to here.

A. I have not heard the awards. I don't know whether the Commissioners have made them or not.

Q. They purchased some of it, didn't they, without condemnation?

A. Yes, sir.

Q. And isn't it your information that they paid considerably higher figures than testified to here as the value of this property?

A. Not in proportion, no, sir. For a single lot at 59th
2799 Street and Avenue A, of course, the prices were larger, but, of course, the property was different.

Q. In proportion?

A. No, sir.

Q. In your judgment not?

A. Positively not. Not in my judgment, but founded on fact.

Q. Well, that would depend again upon your estimate of the relative values of the properties, which would be an opinion of yours, wouldn't it?

A. The city purchased on my estimate there.

Q. Let us take Block 1474, Lot 24, at the northeast corner of 60th Street and Avenue A.

A. Yes, sir.

Q. How did you reach the figures given there?

A. 5,230 square feet, as $12,500 per lot, or $5 per square foot, $26,150.

Q. Now turn to page 8, of Exhibit 48, and take Block 1177, bounded by West End Avenue, the railroad, 65th and 66th Streets, and give us the analysis of your estimate of $172,719.60.

A.—

2 corners on West End Avenue, 2,542 square feet each, or 5,084 square feet, at $5.60	$27,962.00
2 adjoining lots at $10,000 each	20,000.00
4 inside lots at $9,000 each	36,000.00
15 inside lots at $5,000 each	75,000.00
2 gores on the New York Central Railroad, fronting on the railroad, 6,878.80 square feet, at $2	13,757.60
Total	$172,719.60

Q. Do you mean to say that street lots there in your judgment are worth only $5,000 each?

A. I do, sir.

Q. Aren't you aware that there was a sale on the north side of 66th Street about 50 feet east of the railroad tracks, 40x100 feet, last May, for about $13,000, or at the rate of $8,100 per lot
2800 taken—that would be directly across the street from this plot?

A. I am not aware of any such sale, sir.

Q. Well, if that be true, that a sale was made there as recently as last May on the north side of 66th Street directly across from this

property at the rate of $8,100 a lot, wouldn't that modify your judgment that street lots are worth only $5,000 there?

A. Not unless I knew something of the circumstances of the sale, and I have not admitted the sale, either.

Q. I understand that. I have not admitted, either that your estimates are correct.

A. Well, unless I knew the circumstances of that sale it would not change my opinion in the slightest.

Q. Now take Block 1157, bounded by 65th and 66th Streets, West End Avenue and Amsterdam Avenue, if you please, and give the analysis of your estimate of $602,844.60.

A. —

2 Amsterdam Avenue corners, 5,084 square feet....	$50,840.00
2 lots adjoining corners.....	27,500.00
4 inside lots at $12,500 each.....	50,000.00
48 Lots on 65th and 66th Streets at $8,000.....	384,000.00
2 West End Avenue corners, 5,084 square feet.....	30,504.00
2 lots adjoining corner at $11,000 each.....	22,000.00
4 inside lots at $9,500 each.....	38,000.00
Total	$602,844.00

Q. Will you give us the same analysis of your figures of $40,000 for Block 1156, Lots 45 and 46?

A. Four lots, at $8,000, $32,000.

Q. Now turn, please, to page 9 of Exhibit 48 and give us the analysis of your figures of $496,576 for Block 1670, bounded by First and Second Avenues and 98th and 99th Street?

A.—

2801 2 corners on Second Avenue, 5,184 square feet, at $8	$41,472.00
2 adjoining corners on Second Avenue at $13,000.....	26,000.00
4 inside lots at $12,000 each.....	48,000.00
2 corners on First Avenue, 51,184 square feet, at $6 a square foot, or.....	31,104.00
2 lots adjoining corners on First Avenue at $11,000 each	22,000.00
4 inside lots at $10,000 each.....	40,000.00
36 inside lots at $8,000 each.....	288,000.00

Q. Is that on both 98th and 99th Streets the $8,000?

A. Yes, sir. Total, $496,576.00.

Q. Are you familiar with 227 to 231 East 98th Street? Do you know what character of improvements there were on that last year, say a year ago?

A. They were vacant.

Q. Do you know what they sold for in December, or about that?

A. I have no record of it, no, sir. A nominal consideration, my records give it.

Q. Now give us the analysis, if you please, of Block 1692, estimated at $201,358?

A.—

2 corner lots on First Avenue, 5,184 square feet.....	$31,104.00
2 lots adjoining corners at $8,800 each.....	17,600.00
4 inside lots on the avenue, $8,000 each.....	32,000.00
2 gores on marginal street, 9,163.50 square feet, at $14.00	36,654.00
14 street lots at $6,000 each.....	84,000.00
Total	$201,358.00

Q. Now, you have given the value of the street lots in Block 1670 between 98th and 99th Streets at $8,000.00. If it be a fact that 227 to 231 East 98th Street between Second and Third Avenues and close to Second Avenue sold at the rate of $12,500 per lot or more in 1905, vacant, as you say the land was, would not that modify your
2802 view that the interior lots are worth only $8,000 in Block 1670?

A. No, sir, I don't think $12,500.00 out of the way between Second and Third Avenues.

Q. Not if it is close to Second Avenue?

A. No, sir.

Q. Do you mean to give as your opinion that inside lots between First and Second Avenues on 98th Street are not worth more than 65 per cent. of inside lots on 98th Street between Second and Third Avenues and much nearer Second than Third?

A. In this location, yes, sir. Between Second and Third Avenues is a new Little Italy. It is thickly settled in there; one of the biggest advances in New York City has taken place in those blocks.

Q. No reason why the territory between First and Second Avenues on 98th Street, if the gas company should sell that property, might not be used or developed in the same manner as between Second and Third Avenues, is there?

A. On 98th Street?

Q. Yes.

A. Yes, sir, that is true; but I am not speaking only of 98th Street, but of that entire section, that the property east of Second Avenue is not as valuable as that west, not by reason of the gas works, but general location.

Q. Your proposition is that lots are worth more than 50 per cent. more between Third and Second, and nearer Second, than they are between First and Second Avenues?

A. Yes, that is perfectly correct, sir.

Q. Will you now take page 10 of Exhibit 48 and give the analysis of your figures of $109,644.00 as the value of Block 1683, Lots 34 and 35?

A. Northwest corner of First Avenue and 111th Street, 2,592 square feet, at $7.00 square foot, $18,144.00.

Q. Is that in the form of a lot or does that number of square feet in it constitute a lot?

A. It is a little more than a lot—2,500 square feet would
2803 be a lot. It is 2,592 square feet, 92 feet added in there, adjoining the corner, $13,000. Inside lot, $12,000; 7 street lots at $9,500 each, $66,500.

Q. In what way would you lay out this lot containing a little more than 2,500 square feet?

A. I would give three lots—oh, I would give 29.92 feet on First Avenue.

Q. For how many lots?

A. For one lot. Then the next two lots, 2,500 square feet each, giving the benefit to the corner.

Q. Will you give the analysis of the next block, 1682, between 110th and 111th Streets, west of First Avenue, which you estimate at $395,288?

A. Two corner lots on First Avenue, $36,288; 2 adjoining lots at $13,000 each, $26,000; four inside lots at $12,000 each, $48,000; 30 street lots, $285,000; total, $395,288.00.

Q. Did you make the lots $9,500 here on 110th or 111th Street?

A. Yes, sir.

Q. Now give the analysis for the block 1704 between First and Pleasant Avenues, 110th and 111th Streets which you have estimated at $396,784.

A. Two corners on First Avenue, 5,184 square feet, $31,104; two lots adjoining corner, $11,000 each, $22,000; 4 inside lots at $10,000 each, $40,000; 2 corners on Pleasant Avenue, 5,184 square feet, $25,900; 2 lots adjoining corners on Pleasant Avenue, $16,500; 4 inside lots at $7,500 each, $30,000; 16 lots on 110th Street at $6,000 each, $96,000; 13 feet extra on 110th Street at the same rate, $3,120; 16 lots on 111th Street at $8,000 each, $128,000. There are 13 feet extra on 111th Street at the same rate, $4,160; total, $396,784.

Q. Now you have placed a street lot on 110th Street, west of First Avenue, at $9,500 as against a street lot east of First Avenue at $6,000?

A. Yes, sir.

Q. That is something more than 50 per cent. higher west
2804 of First Avenue. Is that your estimate of the relative value of the property east and west of First Avenue and close to it?

A. It is the difference between $8,000 and $6,000—$2,000.

Q. I thought you said $9,500?

A. Yes, sir, $3,500 difference.

Q. That is a difference of more than 50 per cent. directly west of First Avenue?

A. Yes, sir.

Q. Do you think there is that difference?

A. I do, sir.

Q. Now, on the north side of 111th Street you have placed the lots at $8,000.

A. South side of 111th Street?

Q. Yes, on the south side of 111th Street—I meant on the north side of the block. At what figure do you place street lots at 111th Street in Block 1682, being west of First Avenue?

A. $9,500.

Q. Now, are not the lots on the south side of 111th Street, between First and Pleasant Avenues, opposite some sort of a park there—Little Italy or whatever they call it?

A. It is opposite Jefferson Park.

Q. Does not that add to the value of the land?

A. I have allowed for that $8,000 as against $6,000 on the street south of it.

Q. Is it your estimate that lots opposite this Jefferson Park on the south side of 111th Street are worth only $8,000 when lots on First Avenue and not opposite the park you have given a valuation of $9,500?

A. I do, sir.

Q. Will you now give the details of Block 1999 which you valued at $397,800 between 12th Avenue, Boulevard, 132d Street and 133d Street?

A.—

Two corners on Twelfth Avenue	$27,000.00
Two lots adjoining corners at $9,900	19,800.00
Four inside lots at $9,000 each	36,000.00
Forty-five street lots at $7,000 each	315,000.00
Total	$397,800.00

2805 Q. Will you likewise give us the details of your valuation for the Sherman Avenue and Kingsbridge Road property, $97,879.50, Block 2,175?

A. The block contains 65,253 square feet at $1.50 per square foot, $97,879.50.

Q. What do you make the front lot on Sherman Avenue worth?

A. I have taken it as a plot, sir.

Q. Will you give us the estimate of the value of a lot on Sherman Avenue?

A. I can, after lunch, sir.

Q. Cannot you do it now, in a moment?

A. I cannot. I would have to divide up these lots. It is a very irregular plot.

Q. I think that is all the property respecting which you have testified?

A. I think so.

By Mr. BURR:

Q. Did you look at the Shadyside property?

A. No, sir, I am going to do so this afternoon if I am through here; if not, in the morning.

By Mr. MATHEWSON:

Q. You stated you examined this property about two years ago?

A. Some of it, yes, sir.

Q. How much of it?

A. Thirty-seven parcels, I think it was. In some of those appraisals there were not the full blocks as they are now.

Q. Is it easier for you to state which of the plots respecting which you have testified you examined two years ago or to specify which you did not examine?

A. I expect I can testify better to which I did examine. Block 982, Block 988, both Blocks 991, Block 972, part of Block 952, practically the whole Block of 978, practically the whole Block of 979, Block 953, Block 985, part of Block 870, part of Block 1455—almost all of 1455, Block 1474, Block 1670, almost all of 1692,
2806 1682, 1704, 715, 1070, 1157, 1998, 2175. Now the others I will have to check up.

Q. Didn't you examine 1999?

A. I was just going to say here are some here I have got to check up. Block 1071, Lots 10 to 13; Blocks 1092, 1093, 1643, 1683.

Q. You stated that your information as to the buildings and land which you have given here were derived in some degree from that examination?

A. I don' think I understand the question.

Q. You stated at the outset, Mr. Thompson, that you had examined this property and inspected it about two years ago, and I assumed from that that some part of the knowledge of the lands and the buildings about which you have testified came from this inspection of two years ago?

A. Yes, sir.

Q. Who was your client at the time you inspected that property two years ago?

A. The Consolidated Gas Company.

Q. And it was by their permission and upon their invitation that you did inspect it?

A. Yes, sir, not at their invitation but by my request.

Q. You at that time had been retained by the Consoli-ated Gas Company to testify as to some values in *certiorari* proceedings, hadn't you?

A. Yes, sir.

Q. Have you ever been retained by the Consolidated Gas Company to testify except as to tax values in *certiorari* proceedings?

A. No, sir.

Q. And you accepted a retainer and they paid you certain fees, did they not, on account for such services?

Mr. BURR: I object to that. I do not see the purport of these questions.

The MASTER: Well, it is difficult to say at this period, Mr. Burr. I can imagine two or three different ways in which it might be a proper cross-examination. It does not appear now, but I
2807 have got to let the counsel go on to a sufficient extent to make it apparent what he is getting at.

Mr. BURR: I think it is proper to inquire whether he claims because a real estate expert was employed by the Consolidated Gas Company——

Mr. MATHEWSON: No.

The MASTER: It may be that this gentleman had a disagreement about fees, and they have got a suit on, and in that case it would tend to show bias or feeling, would it not?

Mr. BURR: Yes.

The MASTER: That is the idea I have in mind. I do not know what he proposes to show, but I will allow the question.

A. Yes, sir.

Q. And those services included the examination, appraisement and testimony on those properties, didn't they?

A. Yes.

Q. Are not some of these proceedings still pending?

A. I believe they are.

Q. And in some of them you have not yet given your testimony?

A. Yes, sir.

Q. And under those circumstances you have accepted a retainer from the other party to the suit, that is the City of New York, to testify in this proceeding respecting values of those same plots?

A. Yes, sir.

Q. Has the City paid you?

A. No.

Q. You expect to be paid by the City?

A. I do, sir.

Q. Are any of the proceedings in which you were to testify, whether you have testified or not, yet concluded, if you know?

A. In which I have testified?

Q. Whether you have testified in them or not?

2808 A. I don't know; some they were adjusting with the Comptroller, and I don't know whether they were adjusted or not.

Q. Has there been any friction between you and the Company in reference to this matter in any way?

A. None except that I have requested them to pursue the cases, as it was very difficult to testify after the lapse of two or three years; in fact I asked them some time ago to drop me out of it, as I could not keep them in mind.

Q. You know the last adjournment was taken at the request of the Corporation Counsel, don't you?

A. I have so understood from your office, or the office of Shearman & Sterling.

Q. And you know proceedings of this kind frequently spread out to a considerable length, especially where there are a great many of them?

A. Yes, sir.

Mr. MATHEWSON: That is all.

The MASTER: Is there any re-direct?

Mr. BURR: Can we adjourn now?

Recess until 2 o'clock p. m.

After Recess.

JOHN THOMPSON resumed.

By Mr. MATHEWSON:

Q. The *certiorari* proceedings to which I referred at the conclusion of my examination before recess, were *certiorari* proceedings by the Consolidated Gas Company against the City of New York. You understood that?

A. Yes, sir.

Q. Did you refer the subject of your retainer by the City in this proceeding to the Consolidated Gas Company or inform them
2809 of it before you accepted this retainer?

A. I did not.

Mr. MATHEWSON: That is all.

Mr. BURR: I move to strike out all the testimony with regard to his former retainer by the Consolidated Gas Company as being immaterial, irrelevant and incompetent.

The MASTER: I will let it stand.

Mr. BURR: Exception.

Redirect-examination by Mr. BURR:

Q. Now, Mr. Thompson, has the fact that you testified for the Consolidated Gas Company in these proceedings that have been referred to by Mr. Mathewson affected your judgment at all as to the values of the property upon which you have been called to testify?

A. None whatever.

Q. In the proceedings in which you testified for the Consolidated Gas Company, did you give your honest opinion as to the valuation of the property?

A. I did.

Q. On each piece of property that you were examined with regard to?

A. Yes, sir.

Q. And have you given your honest and unbiased and unprejudiced opinion with regard to the true value of the pieces of property with regard to which you have been examined?

A. I have, yes, sir.

Q. Have the values that you have testified to here with regard to these several parcels been the same values that you gave for the Consolidated Gas Company, allowing for appreciation or depreciation since 1903 or 1904?

A. In almost every case it has been with appreciation.

Q. And they have been the same values with that appreciation since that time?

A. Yes, sir.

Q. How many cases did you testify in for the Consolidated Gas Company?

2810 A. I don't remember how many I testified in. I appraised thirty-seven different parcels, but some of the cases I have not yet testified in although I have appraised them.

Q. Referring to Block 972, Lot 45, that is an irregular plot or parcel, is it not?

A. Yes, sir.

Q. You have made no allowance for a rise of value in that plot. Will you state your reasons?

A. Simply on account of its shape. It is an undesirable shaped parcel and I think there has been no increase there.

Q. You have been asked several times by counsel for complainant whether the fact as he stated it was, that the assessed valuation was larger than the valuation given by you, affected your opinion as to valuation and you said it did not. Will you state your reasons why it did not affect your opinion?

A. Because I think at the beginning of 1903, that is as far back as I know, the assessed valuation of the Gas Company in almost every instance has been very high, indeed. At the time I made my examination there were only five or six pieces that I thought under or equally assessed.

Q. And you so testified in these *certiorari* proceedings, did you?

A. Yes, sir.

Q. Since July, 1905, has there been any appreciation in the real estate that you have been examined regarding?

A. Well, I should say probably five per cent.

Q. There has been a rise in the value of real estate in the city generally since that time, has there?

A. Yes, sir.

Recross-examination by Mr. MATHEWSON:

Q. In reference to these *certiorari* proceedings by the Consolidated Gas Company against the city, in which you are under retainer by the Consolidated Gas Company, is it not true that in much the greater number of cases you have not yet testified?

2811 Mr. BURR: I object to the question as being immaterial and irrelevant.

The MASTER: I will allow it.

Mr. BURR: Exception.

A. I am not certain. I should say I had testified in two-thirds, certainly one-half.

Q. Is it not a fact that none of those cases, even those in which you have testified, is completed so far as you know?

A. As far as I know. I understood that some were going to be completed or compromised.

Q. And that you still claim compensation coming to you from the Consolidated Gas Company upon the completion of these cases upon which you have testified and also in those upon which you have not yet testified?

A. Yes, sir. They have my figures, my appraisements.

Q. And your retainer was to examine, report and testify?

The Master: He so stated this morning.

A. Yes, sir.

Q. Now, are you under retainer here by the City of New York or by the State?

Mr. BURR: Objected to as irrelevant, incompetent and immaterial.
The MASTER: I will allow it.
Exception.

A. I declare I don't know.

Mr. BURR: I will admit it is by the City.
The WITNESS: Mr. Burr employed me and I never asked him.

Q. Have you ever been in the buildings respecting which you have testified in connection with these parcels since you went
2812 in under retainer from the Gas Company two years ago?

Mr. BURR: Objected to as being incompetent, immaterial and not being proper recross-examination based upon my redirect-examination which this witness has been subjected to.
The MASTER: It is hardly redirect-examination.
Mr. MATHEWSON: He has stated he took the figures then and added certain figures to them.
Mr. BURR: That was a matter for cross-examination.
The MASTER: Still, I am not disposed to lay down any strict rule about that. I will allow it.
Mr. BURR: Exception.

A. With the exception of Irving Place and 15th Street I don't think there is any.
Q. And Irving Place and 15th Street is the general office of the company?
A. Yes, sir.
Q. Where you have gone since that to confer with the officers of the company and confer respecting your testimony in the *certiorari* proceedings?
A. No, sir; on the contrary, I have never conferred with the officers of the company. My conference has been with Shearman & Sterling, and my visit to Mr. Gawtry was to sell some property in Long Island City.
Q. And you have never given any testimony for the Consolidated Gas Company as to values with the exception of values for the purposes of taxation?
A. That is all.

By Mr. BURR:

Q. Your testimony in those proceedings is a matter of record, is it not?
A. Yes, sir.

Mr. BURR: I suppose the point of these questions is to show
2813 that the Consolidated Gas Company has valuations for taxation and valuations for other purposes, of the property.
Mr. MATHEWSON: We think that the valuation for taxation is different from the valuation of property as an operating concern; but whether that be so or not, I think the effect of the examination is a matter of argument.

MARTIN MCHALE, called — a witness in behalf of the defendant-, being duly sworn, testified as follows:

Direct examination by Mr. BURR:

Q. What is your business, Mr. McHale?
A. I am an appraiser of real estate.
Q. In the City of New York?
A. In the City of New York.
Q. Borough of Manhattan?
A. Borough of Manhattan; in fact I might say Greater New York.
Q. How long have you been engaged in such business?
A. Twenty-one years.
Q. Where is your place of business?
A. No. 55 Cedar Street.
Q. Will you state what experience you have had in the valuation of property in the Borough of Manhattan?
A. Well, I have had twenty-one years' experience with different concerns. With the United States Mortgage & Trust Company——
Q. Are you connected with that company now?
A. I am, sir. I am their appraiser. And the Lawyers Title Insurance & Trust Company, the Lawyers Mortgage Company, the Windsor Trust Company, Columbia Trust Company, Guarantee Trust Company, the State of New York, the Banking and Insurance Department of the State of New Jersey, and I have appraised
2814 for the City of New York and the Consolidated Gas Company, the firm of Shearman & Sterling, Davies, Stone & Auerbach, John Jacob Astor, Rollins & Rollins; and I might mention, I suppose, fifty or seventy-five other concerns and different institutions. I have appraised for the Erie Railroad.

Mr. BURR: If Mr. Mathewson desires to examine this witness as to his ability as an expert before I proceed, I have no objection.
Mr. MATHEWSON: I accept the invitation.

By Mr. MATHEWSON:

Q. You say you have been an appraiser of real estate for twenty-one years in the Borough of Manhattan?
A. I have.
Q. Have your appraisals been confined to any special part of the Borough?
A. No, sir.
Q. Have they been more largely in one section than in another?
A. No, sir; general appraisals throughout the city.
Q. Are you a member of any firm?
A. I am not.
Q. Have you been during that period?
A. No, sir; I have been for myself individually.
Q. Have you bought and sold real estate?
A. I have, some; but I am not a broker. I make a specialty of appraising.
Q. From what sources do you obtain your information from which

you express an opinion as to the value of real estate or form your estimate as an appraiser?

A. I keep records of all the transfers in the City of New York; I associate with different real estate men and ascertain the consideration, when it is possible, and keep myself generally posted in regard to sales, leases and everything pertaining to real estate.

Q. Have you ever sold any bulkhead property?

2815 A. Bulkhead property? No, but I have some for sale.

Q. Well, that may be, have you ever bought any?

A. I never bought any.

Mr. MATHEWSON: I object to the testimony of the witness as to values on the ground that he is not an expert qualified to testify according to the standards established, and he has not purchased and sold real estate.

The WITNESS: I have not said that I have not. I have said that I have sold real estate.

The MASTER: I will take it and give you an exception.

Mr. MATHEWSON: I will ask one more question. I misunderstood the witness.

Mr. BURR: I might say that I intend to ask this witness as to the bulkhead property.

Q. To what extent have you bought and sold real estate in the city?

A. I am connected with the United States Mortgage & Trust Company, and where we have a trustee sale I always appraise the property, and it is sold generally on my appraisal, consisting of property all the way from tenement houses up to private houses.

Q. Sold upon your appraisal?

A. Yes, sir.

Q. But have you bought and sold property personally?

A. Personally, yes, sir. And own property myself.

Q. And what did you mean by saying you were not a broker?

A. I am not a broker. I only do it for my own individual self, that is, as far as the question of purchasing and selling.

Q. To what extent have you purchased and sold?

A. Not so very much. I have bought 132, 134 and 136 West 41st Street, and sold it; I have bought 181 Lexington Avenue,

2816 and sold it; 86 Lexington Avenue, and several pieces throughout the city. That is, I speculate for my own individual self, as a rule. I am not a broker and avoid it as much as possible and absolutely refuse brokerage business.

Q. What is you- connection with the United States Mortgage & Trust Company?

A. Superintendent of real estate.

Q. What are the duties of that position?

A. The duty is to look after loans, also to look after leases, &c., and buildings. We have all the way from tenements up to a two million dollar building to look after.

Mr. MATHEWSON: I press the objection again, Mr. Master.

The MASTER: I will overrule it.

Mr. MATHEWSON: Exception.

By Mr. BURR:

Q. You have been retained by the City to examine for the purposes of appraisal the property of the Consolidated Gas Company, including bulkhead property claimed by it?

A. I have.

Q. And you are familiar with the exhibit which has been offered in evidence here, Exhibit 48?

A. I am.

Q. We will take up that exhibit and examine with regard to each parcel, taking first the parcel of property, Block 1643, situated at the southwest corner of Lexington Avenue and 116th Street. Will you give me the dimensions of that property and state what in your opinion is the proper value of that piece of property?

A. It has a dimension on 116th Street of 80 feet and on Lexington Avenue of 100.99 feet, and is practically three full city lots.

Q. What is the value of it?

A. $84,386.40.

Q. Are there any buildings on it?

A. There is none except one little wooden structure which
2817 adds nothing to the value of the property.

Mr. MATHEWSON: That appears to be exactly to a cent what the testimony of Mr. Thompson is.

The WITNESS: We examined it together and agreed exactly as to the valuation of it; in fact we have examined it three times together.

Q. Did you say three times together?

A. We did, at least three times together.

Q. When?

A. We examined it twice for the Consolidated Gas Company and once for the City of New York, which was here about—some time ago.

Q. You examined it for the Consolidated Gas Company?

A. I did.

Q. How long ago is that?

A. Nearly two years ago, in the year of 1904, anyway.

Q. Take the next parcel as it appears on page 1 of Exhibit 48, Block 1642, being the parcel situated on 114th Street, between Third Avenue and Lexington Avenue, and describe that property and the buildings, if there are any, and give your valuation of it.

The MASTER: As all the other witnesses have given a description and the dimensions of the property, is it necessary to go over it every time. So long as you get the block numbers and identify the lots, is it necessary to go over all the description?

Mr. BURR: I thought Mr. Mathewson might require it to show that this man had familiarized himself with the property.

Mr. MATHEWSON: I do not think to that extent, but it seems to me it might be proper to say, facing so many feet on Third Avenue and so many on 114th Street.

2818 Mr. BURR: And whether there are any buildings on it.

Mr. MATHEWSON: Yes.

A. Block 1642, it has dimensions on Third Avenue of 25 feet 2¾

inches by 150 feet deep; that is, it is equal to three full city lots, one on Third Avenue and two on 114th Street.

Q. Give the valuation, please?

A. $59,104—No, $74,104.00.

Q. Is not this your figure for that parcel?

A. No, I am mistaken, it is $89,104.00.

Q. Are there any buildings on that property?

A. There are two buildings.

Q. Does that amount which you have just given include the buildings?

A. It does.

Q. Have you made any separate valuation of the buildings?

A. I have.

Q. What is that valuation?

A. The buildings $15,000.00 and land $59,104.00.

The MASTER: That does not foot up.

The WITNESS: No, $59,104.00, and buildings $15,000.00.

Mr. MATHEWSON: Mr. Thompson testified that the land was $74,104.00, and buildings $15,000.00, making $89,104.00, or the total which you gave.

The WITNESS: Northeast corner of Third Avenue and 114th Street, containing 2,592 square feet, at $12.00 a foot, would be $31,104.00. I have got two inside lots on 114th Street at $14,000.00 each, $28,000.00.

By the MASTER:

Q. The first figures you gave were right, $74,104.00 for the land and the buildings?

A. Yes.

2819 Q. Of that $15,000.00 is buildings?

A. Yes.

Q. Mr. Thompson corrected his error on cross-examination?

A. Yes.

By Mr. BURR:

Q. What is the correct count?

A. $74,104.00.

Q. Take the next parcel, Block 870, situated at the corner of Irving Place and 15th Street. What does that parcel consist of?

A. Situated on the southeast corner of Irving Place and 15th Street. It is improved by a 4-story, really a 3-story and basement building, used for the general offices of the Consolidated Gas Company. Next to that is a 4-story building.

Q. What is the value of it?

A. The value of the property is $196,491.20.

Q. Does that include the buildings and all?

A. It did.

Mr. MATHEWSON: Well, in each case through this, as you give valuations including buildings, do you include the same amount that Mr. Thompson did in his appraisal?

The WITNESS: Merely in the buildings. We differed considerably in different parcels as to the land, but as far as the buildings

are concerned, we examined them together and practically agreed as to the value of the buildings.

Q. Take the next parcel on page 1 of Exhibit 48, Block 239, the property situated on Elizabeth Street and Hester Street, and briefly describe what property it is.

A. The property has a front of 100 feet on Hester Street and 150 feet on Elizabeth Street. There are practically four lots on Hester Street and two lots on Elizabeth Street. The Hester Street property is a two-story and basement building used for offices and there
2820 is another small building in the rear—not a small building; in fact, it is a building about 50 feet deep, used for storage for pipe and a stable and other things like that, in connection with the gas company.

Q. What valuation do you put upon that parcel?

A. $167,500 for the land. In my opinion the buildings did not add anything to the market value of the land.

Q. On page 2 I call your attention to Block 972, an irregular piece on 15th Street, between Avenue A and Avenue B. Will you describe that property and state what, in your opinion, is the just valuation of it?

A. Situated on the southerly side of 15th Street, distant 350 feet westerly from Avenue B. It is an irregular shape and has a frontage of 13 feet on 15th Street, and as near as I can judge from the dimensions of it—I have divided it up into two separate parcels——

By Mr. MATHEWSON:

Q. It is about 150 feet on the southerly side?

A. Yes, and on the easterly side it has 106.70 feet and on the westerly side 10.50 feet.

By Mr. BURR:

Q. What is the value?

A. The total for the property is $12,279.39.

The MASTER: Could you not make it 37 cents?

Mr. MATHEWSON: Mr. Thompson's value was 37 cents.

The WITNESS: Thirty-seven cents, yes.

Q. Take the next parcel, Block 985, running through from 17th to 18th Street on Avenue C and Avenue B and describe that parcel.

A. Property situated between Avenue B and Avenue C. It is situated between 17th and 18th Streets, and has a frontage
2821 on 18th Street of 350 feet and the same distance on 17th Street, or equal to twenty-eight city lots, at $7,000 per lot, $196,000.

Q. Any buildings on it?

A. No buildings on it.

Q. Now take Block 982, the parcel running through from 14th to 15th Streets, between Avenue C and D.

A. The northwest corner, $12,000 a lot, and there is a little more than a full lot there; in my opinion a full lot, 2,500 square feet

would be worth $12,000, and this lot has 2,814.38 square feet at $4.40 a foot, or $12,832.72.

Q. Well, give us the total valuation?

A. $255,012.10.

Q. Take Block 989, Lot 1, and describe that and give its value.

A. It is situated between Avenue C and Avenue D. They own the whole block with the exception of the center; in other words, they own—I shall have to describe that, Mr. Burr, in order to get that right.

Q. Go ahead.

A.—

I have taken the northeast corner of Avenue C and 15th Street, 2,840.21 square feet at $4 a foot equal to $11,000 a lot or	$11,360.80
Lot adjoining the corner of 15th Street, 2,839.10 quare feet, at $3.45 would be	9,794.90
Four inside lots of the same dimensions at $3.30 would be	37,476.12
Lot adjoining corner of 16th Street, taking the same number of square feet, which is 2,839.10 at $3.45, would be	9,794.90
Southeast corner of Avenue C and 16th Street, contains 2,840.21 square feet at $4 a square foot	11,360.80
I have taken ten street lots there at $6,000 a lot, which would be	60,000.00
And the total for that portion would be	$139,787.52
2822 The southwest corner of Avenue D and 16th Street, 2,349.62 square feet, at $3.60 would be	8,458.63
Lot adjoining the corner of 16th Street, 2,348.71 square feet, at $2.94, would be	6,905.21
Four inside lots, 2,348.71 square feet each, would equal 9,394.84 square feet, at $2.80	26,305.55
Lot adjoining the corner of 15th Street, 2,348.71 square feet, at $2.94	6,905.21
Northeast corner of Avenue D and 15th Street, 2,349.62 square feet, at $3.60, would be	8,458.03
Eight street lots, $6,000 a lot	48,000.00
	$105,032.63
Or a total for the whole block of	$244,820.15

By the MASTER:

Q. How is that subdivided between Lots 1 and Lot 26?

A. Lot 1 is $139,787.52, and Lot 26 is $105,032.63.

By Mr. BURR:

Q. Now take Block 991, Lots 26 and 50.

A. I think there are two 991's.

Q. Take the one bounded by Avenue D, Tompkins Street, East 15th Street and East 16th Street?

A. That is an irregular plot situated between 15th and 16th Streets and Avenue D and Tompkins Street which I valued at $115,683.27.

Q. Take the other parcel also appraised in Block 991 between 14th and 15th Streets?

A. Situated between 14th and 15th Streets, Avenue D and Tompkins Street, valuation $177,435.52.

Q. Now I call your attention to Block 988, being the
2823 parcel embracing block between 14th and 15th Streets, Avenue D and Avenue C.

A. Block 989, situated between 14th and 15th Street-, Avenue C and Avenue D, taking in the whole block, which I valued at $383,873.15.

Q. Now take Block No. 688, on page 3 of Exhibit 48, and describe that parcel, stating what in your opinion is the value of it?

A. Block 688, situated between 16th and 18th Streets, Tenth Avenue and the marginal street, my valuation is $322,187.20.

Q. Now take the parcel just above, Block 689.

A. 689 is situated between 17th and 18th Streets, Tenth Avenue and the marginal street, which I value at $402,347.20.

Q. And the parcel just above that, Block 690, between 18th and 19th Streets and Tenth Avenue and the marginal street.

A. It takes in that whole block with the exception of a portion of 19th Street, which I value at $413,822.52.

Q. Now I refer you to Block 691, on page 3 of Exhibit 48, 20th Street and marginal street.

A. That is situated between Tenth Avenue, marginal street, 109 feet 8 inches on 20th Street and 119 feet on 19th Street, which I value at $164,479.20.

Q. Now take Block 716, Lot 14, and just describe its location?

A. It is situated on the north side of 18th Street, a distance of 275 feet east of Tenth Avenue. It is three full city lots. In my opinion it is worth $12,000 a lot, or $36,000 for the three.

Q. Now take Block No. 715.

A. That is situated on the south side of 18th Street, a distance of 150 feet from Tenth Avenue, and my unit of value is the same there, $12,000, or $108,000 total value. There are nine full city lots.

Q. Now take Block No. 951, on page 4 of Exhibit 48, situated on the southerly side of East 20th Street, between Avenue A and First Avenue.

A. Yes, sir; it is situated on the south side of 20th Street,
2824 distance 94 feet west of Avenue A. Seven full city lots; in my opinion worth $7,000 each, or $49,000 for the plot; and I add $10,000 for the buildings, making $59,000.

Q. Now take Block 952.

A. That takes in the whole block with the exception of the First Avenue frontage, which I place value on of $350,200.

Q. Were there buildings on that?

A. Yes, sir. I add $20,000 for the buildings, making a total of $350,200. Do you wish me to describe the buildings?

Q. Yes, you might?

A. No. 333 Avenue A, an old four-story brick tenement with about 20 feet front, occupied by two families employed by the Gas Company. In my opinion it adds to the market value of the land about $3,000.

No. 335 Avenue A, an old four-story brick building, 19 feet front, which adds to the market value of the land in my opinion about $3,000.

No. 341 Avenue A, southwest corner of 21st Street, of a plot 65 x 94; a two-story brick machinery building, which adds to the market value of the land about $6,000.

No. 327 Avenue A, a four-story building on plot 69 feet 6 inches by 70 feet, used as storage house; value about $6,000.

By Mr. MATHEWSON:

Q. That makes how much all told for the buildings?

A. Makes all told for the buildings, $20,000.

Q. That would leave $330,000 for the land?

A. $330,200 for the land, sir.

By Mr. BURR:

Q. Wherever there are any buildings on any of these parcels you might briefly refer to them, or structures of any kind.

A. Yes.

Q. Take Block 953, parcel comprising the whole block
2825 between First Avenue and Avenue A, 21st and 22d Streets.

A. Parcel 953 takes in the whole block from First Avenue to Avenue A, and from 21st to 22d Street. I value it at $403,000.

Q. Are there any buildings on that?

A. There are no buildings on that; that is, which in my opinion add anything to the value of the land.

Q. Now take Block 979, on page 4 of Exhibit 48.

A. Block 979 is situated between 21st and 22d Streets, Avenue A and the marginal street, which I value at $401,963. There is a one-story building on it used by the Gas Company, which in my opinion adds nothing to the market value of the land.

Q. Now take Block 978.

A. Block 978 is situated between Avenue A and Avenue B, and 20th and 21st Streets, and takes in the whole block with the exception of a parcel in the centre of the Avenue A frontage, about 23 feet in depth by 100 feet. The land I put in at $389,264. There are some buildings on that. No. 326 Avenue A, corner of 21st Street, a four-story tenement, store on first floor vacant. In my opinion the building is worth about $4,000.

Q. What is your total valuation of that parcel?

A. And there are two more buildings on the avenue, two tenements; they are worth about $8,000, or $4,000 each. My total for the whole block is $411,264. All told the buildings in my opinion, add about $12,000.

Q. Now, take Block 987, an irregular piece fronting on the marginal street, between the marginal street and Avenue B and 20th and 21st Streets.

A. Block 987 is situated between Avenue B and 20th and 21st Streets and the marginal street. In *In* my opinion it is worth $83,873.96.

Q. Any buildings?

A. No buildings on it that add anything to the market value, in my opinion.

Q. Now, take Block 1090, on page 5, of the Exhibit 48, on
2826 42d Street, Lot No. 23, west of 11th Avenue.

A. 1090, yes, sir; situated on the north side of 42d Street, a distance of 100 feet west of 11th Avenue. There are six full city lots at $12,000 each, making $72,000. A one-story building there that I did not think added anything to the market value of the land.

Q. Take the next parcel, Block No. 1071?

A. 1071 is situated on the north side of 42d Street, a distance of 225 feet east of 11th Avenue. There are four full city lots worth $13,000, in my opinion, each, or $52,000. Those lots are vacant.

Q. Now, take Block 1070.

A. Block 1070 is situated on the north side of 41st Street, a distance of 200 feet from 10th Avenue. There is a one-story brick building which, in my opinion, adds nothing to the market value of the land. There are eight full city lots at $10,000, or $80,000.

Q. Now, take Block No. 1089, between 41st and 42d Streets and west of 11th Avenue.

A. Block 1089 takes in the whole block between 41st and 42d Streets, 11th and 12th Avenues. Now, I value that in two ways; assuming that the Gas Company does not own 12th Avenue, I put that plot in at $599,500. Assuming that they do own it I put it in at $779,500. In other words, 10 lots at $11,000 each on 42d Street would be $110,000; 10 lots on 41st Street at $7,000 would be $70,000 or $180,000 for the portion which is occupied as Twelfth Avenue.

Q. Take Block 1092, on page 6 of the Exhibit.

A. Block 1092 takes in the whole block between 11th and 12th Avenues with the exception of the 11th Avenue frontage and one lot in 45th Street, being 28 lots on 44th Street at $8,000 each, which would be $224,000; 27 lots on 45th Street at $7,500 each, which would be $202,000, or $431,000 for the property. Now that is assuming the Gas Company does not own 12th Avenue——

2827 By Mr. MATHEWSON:

Q. How much of that is for buildings?

A. Well, the buildings—there are three little buildings on 306, 308 and 310 West 45th Street, one of them 16 feet 8 inches by 45 feet, a three-story brick building, the other one is a two-story brick building, with an extension. The land I put in at $581,500. The buildings, in my opinion, add——

Q. We are talking now of the property, assuming the company does not own the street. You gave $431,000 as the value?

A. Yes, sir.

Q. My question was how much of that was for buildings?
A. $4,500. The land was $426,500. And the buildings, in my opinion, add about $4,500 to the market value of the land.

By Mr. BURR:

Q. Have you given two figures there?
A. Not yet. Now, assuming that the Gas Company does own 12th Avenue, it would be 10 lots on 44th Street at $8,000 each or $80,000; 10 lots on 45th Street at $7,500, which would be $75,000, or a total for the land and buildings of $586,000.

By Mr. MATHEWSON:

Q. The same buildings as before being included, $4,500?
A. The same buildings as before being included, $4,500.

By Mr. BURR:

Q. Have you considered that as upland?
A. I have considered that as upland, yes, sir.
Q. You have not considered it as land under water?
A. No, sir. I have not.
2828 Q. Now take the block between 45th and 46th Street and Eleventh Avenue and the river.
A. Block No. 1093?
Q. Yes.
A. That block is situated between 45th and 46th Streets and takes in the Eleventh Avenue frontage, and twenty-three lots on 45th Street and twenty lots on 46th Street. Assuming that the Gas Company does not own Twelfth Avenue it would be $332,500. Assuming that they do own it it would be $487,500.

By the MASTER:

Q. Was your valuation of the other one the same as Mr. Thompson's?
A. Just the same. We examined the property together several times and came to the same conclusion.

By Mr. BURR:

Q. What did you say was the valuation if the city owned Twelfth Avenue?
A. $487,500.
Q. And if the Gas Company owned Twelfth Avenue what is the value?
A. Well, I mean—no—if the city owned it it would be $332,500, but assuming the Gas Company owns it it would be $487,500.
Q. Now take page 7 of Exhibit 48, Block 1457, between 62d and 63d Streets and First Avenue and Avenue A?
A. Situated between Avenue A and First Avenue and between 63d and 62d Streets; occupied by two gasometers, one in process of construction, not yet finished—it was not the other day when I was up there. There are nineteen and one-quarter city lots at $8,000, or $154,000.

Q. The next parcel is Block 1455, on the same page of the exhibit, parcel commencing on Avenue A from 60th to 61st Street?

A. Parcel 1455. My valuation on that is $194,000.

2829 Q. The next parcel is Block 1474, an irregular piece at the corner of Avenue A and 60th Street?

A. Yes. My valuation on that is $26,150.

Q. Now turn to page 8 of the exhibit, and I call your attention to Block 1177, which is located between West End Avenue and the Hudson River Railroad and 65th and 66th Streets?

A. Yes, sir. My valuation on that is $172,719.60.

Q. Now go to the other parcel, Block No. 1157, that takes in the whole block between West End Avenue and Amsterdam Avenue?

A. That takes in the whole block between West End Avenue and Amsterdam Avenue and 65th and 66th Streets. My valuation on that is $602,844.

Q. Now there is a small parcel on the southerly side of 65th Street, Block 1156, between the same avenues?

A. Yes, sir.

Q. What is the value of that parcel?

A. $40,000. That is $32,000 for the land, and the buildings $8,000, making a $40,000 total.

Q. Now we will turn to page 9 of the exhibit and I call your attention to Block 1670, which is a parcel embracing the whole block between Second Avenue and 98th and 99th Streets.

A. Yes, sir, taking in the whole block from Second Avenue to First Avenue and 98th to 99th Street-. My valuation on that is $496,576.

Q. Are there any buildings on that property?

A. None, sir, in my opinion, that add anything to the market value.

Q. Now, take the parcel, Block No. 1692, appearing on the same page, bounded by the marginal street, First Avenue and 98th and 99th Streets.

A. Takes in the whole block with the exception of the Second Avenue frontage.

Q. That is an irregular piece, is it not?

A. 1682?

Q. No. 1692.

A. Oh, 1692? That is an irregular piece situated between

2830 First Avenue and marginal street, 98th and 99th Streets. My valuation on that is $201,358.

Q. That does not include bulkhead or pier values?

A. It does not. I have not so far included any bulkhead or pier properties in any of the parcels I have testified to. I have made a separate item of them.

Q. Take Block 1683 on page 10 of the exhibit, which appears to be an irregular piece of parcel situated between First Avenue and Second Avenue and 111th and 112th Streets.

A. Yes.

Q. Briefly describe that and its values, please.

A. It is situated west of First Avenue, having a frontage on First avenue of 100 feet and a depth of 225 feet on 111th Street, running

through to 112th Street; vacant, with the exception of a small brick building in the rear of lot facing on 111th Street; on the 112th Street side that is vacant. Value of that property in my opinion is $109,644.

By Mr. MATHEWSON:

Q. Well, you have got in 25 feet more than Mr. Thompson did?
A. Yes, there are only 3 lots on First Avenue.
Q. 75 feet 11 inches?
A. Yes, sir.

By Mr. BURR:

Q. Take Block 1682, between 110th and 111th Streets and from First Avenue to Second Avenue.
A. That is situated between 110th and 111th Streets, First Avenue and Second Avenue, with the exception of the Second Avenue frontage. My value on that is $395,288.
Q. Take Block 1704 next.
A. Yes, sir; that takes in the whole block between 110th and 111th Streets, First Avenue and Pleasant Avenue.
Q. Are there any buildings on that?
A. No, sir.
2831 Q. Yes, there are some buildings on that, aren't there?

Mr. MATHEWSON: Mr. Thompson testified there were buildings there.

A. There is a one-story brick and also a frame building but I have not added——
Q. You mean you have disregarded the buildings entirely?
A. Yes, sir; in my opinion they add nothing to the market value of the property.
Q. What do you say the valuation of that was?
A. The valuation of the whole property is $281,584.
Q. That does not include the bulkhead, does it?
A. It does not, sir; nor the land under water.
Q. The next parcel appears on page 11 of the Exhibit, Block No. 1999?
A. 1999; yes, sir. That is situated on 132d and 133d Streets, between 12th Avenue and Broadway——
Q. And the Boulevard?
A. Well, it is really called Broadway now, sir. That takes in the whole block with the exception of the Broadway frontage. In my opinion it is worth $397,800. The improvements, in my opinion, do not add anything to the market value of the land.
Q. Turn to page 12 of the Exhibit and I call your attention to Block 2175, situated on Kingsbridge Road and Sherman Avenue.
A. Yes, sir.
Q. What is the value of that?
A. $97,879.50.
Q. That, I think, includes all the property?
A. Yes, sir; except bulkheads and land under water.

Q. What is your total valuation of this?
A. This is for the upland and buildings only.

By Mr. MATHEWSON:

Q. Excluding bulkheads, land under water, docks, etc.
A. Yes, sir. The total value is $9,822,565.74.

2832 By the MASTER:

Q. On what basis does that cover the 12th Avenue property?
A. That is assuming that the Gas Company does own 12th Avenue.

By Mr. BURR:

Q. You have not given the value of Shady Side?
A. No, sir; I have not. I treat that practically as really water front property.

Cross-examination by Mr. MATHEWSON:

Q. For Block 1643 you give the same valuation $84,386.40, as was given by Mr. Thompson.
A. Yes, sir.
Q. Did you reach the figures by the same valuations in detail as he did?
A. I think the chances are that we did, that we examined the property together and we concluded that that land was worth so much, that that property was worth so much.
Q. Well, will you state the details of the valuation by which you reached that total?
A. Yes; 1 inside lot at $20,000; 1 adjoining lot next to the corner, I have added ten per cent., which would be $22,000; 1 corner lot, in my opinion, situated where that particular piece of property is on a thoroughfare, that is worth 75 per cent. more than an inside lot, and I have given you the benefit of the corners, in other words, giving more than a corner, 3,027.60 square feet at $14 a square foot, which would be $42,386.40, or a total for the property of $84,386.40.
Q. Where you have given the same total as Mr. Thompson I do not wish to take time to examine you specifically on each block and ask you to specify the detail which you employed to reach the total if you are able to say you reached the total by the use of the same detail that Mr. Thompson did.
A. In a great many of them; in several we differed.
2833 Q. Where you reached exactly the same totals that he did, did you then use the same method in each case?
A. Yes.
Q. So it is not necessary for me to take up those now in examining you, is it?
A. No, sir.
Q. That is right? isn't it?
A. It is.
Q. You have present here the detail showing exactly how you reached those totals in each case, I suppose?

A. I have, yes, sir, every one. Those I worked out myself.

Q. But where your total valuation coincides exactly with Mr. Thompson's you worked them out together?

A. Yes, sir.

Q. And your method is the same?

A. Exactly the same. We worked them out jointly. In fact we worked them all together but did not agree on some.

Q. And where you did not agree on them all you have so stated in your testimony?

A. I have.

By the MASTER:

Q. In all cases where you do not agree your figures seem to have been higher than Mr. Thompson's?

A. Yes, sir.

By Mr. MATHEWSON:

Q. Taking Block 1642, office buildings, etc., of the Consolidated Company at the northwest corner of Third ave. and 114th Street, you have figured land at $59,104, and the buildings at $15,000, making a total of $74,104?

A. We did, sir.

Q. You do not wish to be understood as saying that those buildings could be reproduced for $15,000, do you?

A. It is not the structural value of them at all, sir.

Q. They could not in your judgment be reproduced for that?

A. In my opinion they would cost a good deal more.

2834 Q. And what you have taken in these cases where you have included buildings is what the buildings on the land would add to the value of the land if the land were sold under ordinary circumstances?

A. In my opinion, yes, sir.

Q. In your opinion?

A. Yes, sir.

Q. I am glad it is your opinion, because Mr. Thompson said he knew in some cases, and I doubted it.

A. I prefer to say it is my opinion, sir.

Q. In other words, Mr. Thompson testified that his original figures of two years ago also were made up for the purpose of testifying in *certiorari* proceedings to reduce the amount of taxes; is that your case as well?

A. It was my case as well, sir.

Q. You and Mr. Thompson were associated in that case, were you not?

A. We were engaged by Shearman & Sterling, for the Consolidated Gas Company.

Q. And you understood that the tax law of the City of New York, as provided in the charter, specified that the assessor should state the amount for which under ordinary circumstances the real estate would sell?

A. I did well, sir.

Q. So no matter what the structural value of the buildings on the

property was, or no matter what the value might be to the Company itself in using the buildings, you merely took that value of the buildings which would indicate the amount for which the property would sell beyond the bare value of the land if the property were sold, is that right?

A. The building may be very useful to the Company, but in my opinion what it really added to the market value of the land is the value I placed on the property when I appraised it.

Q. And you have on that basis simply added now as Mr. Thompson did, I assume, the increase in value which took place since
2835 you made your original figures, say two years ago.

A. Well practically three years, for the reason that the values——

Q. Well, whatever it may have been.

A. Yes, sir. The *certiorari* was for 1903, and these are really 1906 values.

Q. For instance, taking the manufacturing plant of the Consolidated Gas Company, if that land was sold with improvements in other directions it would not be your idea that the manufacturing plant of the Company would add anything particularly to the value of the land to a purchaser?

A. In that same place it would be a detriment because it would cost something to remove them.

Q. And in this case you would not only add nothing to the value of the land but you would rather deduct something from it?

A. No, I would not, I would simply ignore the structures—I could not call them improvements—ignore them and treat it as vacant land.

Q. Your idea would be in taxation, the amount fixed would be the amount of the value of the land practically nothing added for the plants if they were to be sold under ordinary circumstances?

A. I would rather not pass an opinion as to taxation.

Q. No, but that would be the theory on which you would testify in reference to taxation?

A. That is the theory I should appraise it on, yes, sir.

Q. For the purposes of taxation?

A. I don't say so.

Q. That is the theory on which you would appraise it if you were determining the amount for which under ordinary circumstances it would sell?

A. It would sell for, yes, sir.

Q. And that is the method which you did pursue in conjunction with Mr. Thompson in making up your figures as you have presented them here?

A. It was the method I pursued, yes, sir.

2836 Q. Now in reference to Block 870, the offices at Irving Place and 15th Street, your total for the buildings and land was how much?

A. $196,491.20.

Q. Of which you allowed buildings, $27,000, as the amount which would add to the selling price of the land?

A. I did.

Q. And you did not allow $27,000 for the buildings on the theory that they could be reconstructed for that amount?

A. I am positive they could not. Being familiar with buildings I know they could not. What I mean is the structural value.

Q. Yes, exactly.

A. Yes, they could not be reproduced for that.

Q. Now take next the Block No. 239 at the northeast corner of Hester and Elizabeth Streets. You say you have appraised that at $167,500 and have allowed nothing for buildings. Now the office buildings of the company on that corner are worth something, aren't they?

A. They might be to the Gas Company, but my opinion is that they don't add anything to the market value of the land. That neighborhood is entirely devoted to tenements.

Q. In other words you think if the land was sold that the purchaser would remove those buildings and put something in their place?

A. He would not consider the buildings at all, in my opinion.

Q. Considering now Block No. 972, the irregular piece on Avenue A west of Avenue B—the very irregular piece with a small frontage on 15th Street west of Avenue B?

A. Yes, sir.

Q. It appears that that property is appraised by you at $12,279.37, but it is assessed for $20,000?

A. Yes, sir.

Q. For taxation?

A. Yes, sir.

Q. Did you consider that in reaching your conclusion of value?

A. I never consider assessed valuations at all in reaching value.

Q. Isn't it your experience, speaking generally, that the
2837 values fixed by the assessors for the purposes of taxation are less than the actual value of the land?

A. Ordinarily they are. I have known in several cases where it has been far above.

Q. But as a general proposition my question would be answered in the affirmative?

A. Oh, I think in the majority of cases, yes; but it has no real bearing, in my opinion. In fact in making up my values I never look at the assessed valuation at all. I do not know what it is assessed at to-day.

Q. It is in evidence that it is $20,000.

A. I have not the slightest idea, sir.

Q. Take Block 985, which you valued at $196,000, between 17th and 18th Streets. It is in evidence there are certain coal sheds and a coal office there which would cost something to construct. I assume, as you say you included nothing for the buildings, that you allowed nothing for them?

A. Nothing. Simply valued it as vacant land.

Q. Take Block 982, on which you have placed a valuation of $255,012?

A. Yes, sir.

Q. Give the detail by which you reached that total.

A. Northwest corner of Avenue C and 14th Street, I put a lot in there at $12,000, there being 22,814.38 square feet at $4.40, which would be $12,832.72. The adjoining lot, same number of square feet, at $3.50, would be $9,846.56; there are four inside lots, or 11,253.16 square feet, at $3.20, which would be $36,010.11; an adjoining corner on 15th Street, 2,813.29 square feet, at $3.40, or $9,565.19; northwest corner of Avenue C and 15th Street, 2,814.38 square feet, at $4 a square foot, which would be $11,257.52; thirteen inside lots on 14th Street, at $7,000 each, which would be $91,000; thirteen inside lots on 15th Street, at $6,500, which would be $84,500.

Q. You have given the total as $255,012.10 for this Block 982?

A. Yes, sir.

2838 Q. And it appears in evidence it has been assessed at $275,000 for the land only. Does that affect your estimate of its value at all?

A. It does not.

Q. You have given the detail by which you reached your total of $244,820.15?

A. Yes, sir.

Q. For two parcels in Block 989, and it appears in evidence that the assessed value of the land is greater slightly than the total that you have given for your value, to wit, $245,000, and I ask you the same question, whether that modifies your judgment of the value of that plot?

A. The assessment, sir, would have no bearing at all on the value as far as I am concerned. I really don't know what they are assessed at.

Q. Take Block 991, Lot 26, between Tompkins Street and Avenue D, and East 15th and East 16th Streets. It appears that that is assessed at $115,000 for taxation?

A. Is that 991-A or 991-B?

Q. Twenty-six, the upper one, the small lot, $115,000, which is exactly what you give as the structural value?

A. Market value rather.

Q. The market value I mean. And this assessment is for the land alone?

A. It is, sir.

Q. It is in evidence that there are certain coal storage structures and buildings on this plot, and I understood you to say you had included nothing in your $115,683.27 for those?

A. No, sir, I did not.

Q. And the fact that the land alone is assessed at substantially the figure you give would not affect your judgment at all?

A. No, it would not.

Q. Now will you give the details referring to Block 991, lots 1 to 47, being bounded by 14th and 15th Streets, Avenue D and Tompkins Street, by which you reach $177,435.52 as your total estimate?

A. Yes, sir, I have taken the northeast corner of Avenue D and 14th Street containing 2,581 square feet at $4 a foot, which

2839 would be $10,328; adjoining the corner of 14th Street would be the same number of square feet at $2.94, which would be

$7,588; four inside lots the same number of square feet, 2,581, at $2.80, and there are 10,324 square feet at $2.80, which would be $28,907.20; adjoining the corner of 15th Street, 2,581 feet square at $2.94, which would be $7,588; southeast corner of Avenue D and 15th Street, 2,582 square feet at $3.60, which would be $9,295.20; four lots on 15th Street $5.500 per lot, would be 22,000; southwest corner of Tompkins Street and 15th Street, 2,178.21 square feet at $3.20, which would be $6,970.24; adjoining corner of 15th Street, 2,475.70 square feet at $2.52, which would be $6,238.76; four inside lots equal to 14,596.51 square feet at $2.40 a foot, or 27,851.60; adjoining corner of 14th Street there are 3.322.50 square feet at 2.52, which would be $8,372.70; northwest corner of Tompkins Street and 14th Street, 3,632.30 square feet at $3.40 per square foot, which would be $12,315.82; five lots on 14th Street at $6,000 per lot, which would be $30,000; total $177,435.52.

Q. Are you able to point to the sale of any lots in this vicinity on 14th Street at $6,000 per lot, which is the figure you have assumed?

A. Yes, if you allow me to refer to the sales.

Q. Yes; I mean within the last year or so—not too far back.

A. No, I can not.

Q. Well, how far back is there a sale?

A. You mean on that side of the street, between 13th and 14th Streets.

Q. No, on 14th Street is my question?

A. No, not on 14th Street.

Q. I say taking a lot on 14th Street?

A. No, sir.

Q. Is 14th Street a broader street than 15th Street, 16th Street and the other side streets thereabout?

A. It is a little broader.

2840 Q. Now it appears that this Block 991, Lots 1 to 47, which you have testified to be worth $177,435.52 were assessed at a larger sum for taxation, to wit, $180,000, and that as we have seen practically all the property on page two of Exhibit 48, to which you have testified has been assessed for taxation for a higher figure than you have given as the present value. Does that circumstance, considered as a whole, affect your opinion as to the value of this property?

A. It does not, sir.

Q. Are these slips as to valuations, or rather slips as to sales and prices obtained for different lots and sections, the same ones as Mr. Thompson had here?

A. The same ones. We got them up together; some of them belong to me and some to him.

Q. Well, there have been no additions made since he testified, I suppose, to these sales included in those little books?

A. Not since to-day.

Q. Then I do not think I will need to ask you about that, as I questioned him quite fully.

A. Yes.

Q. Referring to the 18th Street property, between 16th and 20th

Street West, the marginal street and 10th Avenue, your figures appear to be identical with those presented by Mr. Thompson?

A. Except——

Q. Were you not retained by the City for the purpose of appraising this particular property or testifying in regard to it in connection with the 18th Street improvements?

A. I was not.

Q. Did you testify in that regard for the City?

A. I did not.

Q. Referring to Block 715 on the south side of 18th Street, east of 10th Avenue, what buildings did you find there. You said you did not find any that you included as adding to the value of the land?

A. No, there is an old 2-story building that was on there and I did not think it added anything to the value of the land.

Q. Do you know what that was used for?

A. Used in connection with the Gas Company.

2841 Q. You don't know for what purpose?

A. No, sir; I do not. I did not really examine the building, for I did not think it was an adequate improvement and therefore did not add anything to the market value of the land.

Mr. BURR: Mr. Thompson said it was a stable. You don't know whether it was a stable?

The WITNESS: I do not. I think it was a stable for storage; they used it for storage of different things in connection with the gas plant.

Q. Did you make any estimate of the value of the land west of 10th Avenue, between 16th and 20th Streets, belonging to the Consolidated Gas Company as they stood, before the improvement took place?

A. I did not; no, sir.

Q. You have only appraised what is left?

A. I simply appraised what I found to be on that Exhibit 48.

Q. Now, your valuations for these parcels appear to be identical with Mr. Thompson's, with one or two exceptions.

A. Yes, there are several exceptions.

Q. One is——

A. I think there are eight or ten that we did not agree on.

Q. No, I say this particular parcel.

A. I beg pardon.

Q. I refer to the 18th Street property, so-called, on North River. I think you agree in every respect so far as that is concerned?

A. We do; yes, sir.

Q. In reference to the properties between 19th Street East and 22d Street East and First Avenue and the marginal street, you also agree in most cases, and I will call your attention to those cases in which you do not. The first is Block 952, where you give a valua-

2842 tion of $350,200 as against $333,520 by Mr. Thompson.

Q. Will you give the detail by which you reached your total?

A. I have put in the corner lots on the avenue at $12,000 each,

which would be $24,000; the 2 adjoining the corner $20,000, $10,000 each; 4 inside lots at $9,000 each, $36,000; 32 lots at $7,500 each, $240,000; 34 front feet—I have made a mistake there. Well, the remaining land was $10,200 or a total for the land of $330,200. Now, for the buildings I have added $20,000, making a total of the land and buildings of $350,200.

Q. How much does that make for the street lots, interior?

A. $7,500.

Q. The same on 21st Street as on 20th Street?

A. About the same; in my opinion there is no difference.

Q. Is not the property more valuable the nearer you get to 23d Street, generally speaking?

A. I don't think 23d Street has any bearing below the north side of 22d Street; in other words the property abutting 23d Street.

Q. Will you take Block 979 which you have estimated at $401,963 as against $338,086, and give me the details of your valuation?

A.—

I have taken the two corner lots at $12,500 each.....	$25,000.00
Two lots adjoining the corner $9,000 each.....	18,000.00
Four inside lots at $3.50 a square foot.....	35,000.00
Forty-second Street lots at $7,000 would be.....	294,000.00
There are two gores on the marginal streets 7,885 square feet at $3.80.....	29,963.00
Or a total of.....	$401,963.00

There is a 1-story gas building covering the plot.

2843 Q. You did not add anything to your valuation for this building?

A. I did not.

Q. Take the next block if you please, 978, which you valued at $411,264 against $326,518.60 as given by Mr. Thompson.

Q. Will you give the details of your valuation there?

A.—

Northeast corner of Avenue A.....	$12,000.00
Lot adjoining the corner.....	10,000.00
One inside lot—the Company does not own the whole front there and I have divided them up into lots or had my surveyors do it. There are 1,900 square feet at $3.60, which would be.....	6,840.00
The next would be 529 square feet in the rear of the portion that is not owned by the Company, at $3.60, which would be	1,904.40
Two inside lots 2,100 square feet each, or 4,200 square feet at $3.60 a square foot.....	15,120.00
Lot adjoining the corner of 21st Street, at $4 a square foot	10,000.00
Southeast corner of Avenue A and 21st Street.....	12,000.00
Two corner lots $11,000 each.....	22,000.00
Two lots adjoining the corner $8,000 each.....	16,000.00

Four inside lots or 8,400 square feet at $2.60 a foot would be	23,520.00
Then I have 37 1-5 street lots at $7,000 a lot	260,400.00
Or a total of	$389,264.00

Now there are some buildings on that property. There is No. 326, which is on the corner, 326 Avenue A, which is a 4-story
2844 tenement, stores and basement vacant; that is the stores were vacant, and I think one or two floors upstairs were occupied, and which would add in my opinion about $4,000. 328 and 330, two five-story buildings occupied by men employed in the Gas Company, and in my opinion they add about $4,000 each, or $8,000 for the two or $12,000 for the buildings, making a total for the whole property of $411,264.

Q. What is the frontage of these three tenement houses which you valued at $4,000 each?

A. I think they are full lots.

Q. Is either of them a corner?

A. One of them was, 326 was on the corner.

Q. Is not that worth more than the two interior lots?

A. I don't think the building is worth any more.

Q. Five-story tenement?

A. This was a four-story tenement on the corner. The inside ones are five-story, but in my opinion the value of the buildings is about the same.

Q. That would be $4,000 a piece for the five-story tenements?

A. Yes, sir. They are old buildings which have been build there for thirty years from my own knowledge, and I don't know how much longer.

Q. I assume it cost more than that to construct them originally a great deal.

A. Yes, a great deal more to construct them at the time they were constructed, also now. But they were an adequate improvement at that time and now they are not.

Q. And again you take merely what they would add to the value of the land if a purchaser came along for the land?

A. Precisely.

Q. Now, referring to this property in general, between East 19th Street and East 22d Street and east of First Avenue, it appears that Block 951, while you have given a land value of $49,000 is as-
2845 sessed at $50,000; Block 952, for which you have given a land value of $330,200, is assessed at $340,000 for taxation; Block 953, which you have valued at $403,000, is assessed for taxation at $500,000, and that Block No. 987, which you have testified is worth $83,876.96, is assessed for taxation at $86,000. Would not the fact that each one of these is assessed for more than your figures, and the fact that they are grouped together here as they are, indicate to you that you had undervalued them in your estimate?

A. It would not, sir.

Q. I call your attention to another circumstance, that is to say, that what is known as the 14th Street property, that is, between 14th

Street and 16th Street east, respecting which you have testified, and this property between 19th and 22d Streets east, that is to say practically all the property on the east side, you have placed at a lower figure than it seems to appear on the books of assessments for taxation. Would not that indicate to you that you have undervalued the property of the east side?

A. I really don't know what the assessment is, Mr. Mathewson.

Q. Well, it is in evidence——

A. But the figures I have testified to is what in my opinion the property is worth to-day.

Q. Well, I am simply calling your attention to the fact which appeared in evidence and ask, those being the facts as to the assessments for taxation, and the difference appearing to be largely on the east side, if that would not induce you to think that perhaps you had made a mistake in your valuations and put the valuation too low in this section.

A. It would not have the slightest effect, sir.

Q. What do you figure a lot in Block 1089, being the block between 42d and 41st Streets and west on Eleventh Avenue to be worth, facing on 42d Street, interior?

A. $11,000 each, situated where that is, between Eleventh and Twelfth Avenues.

Q. You valued it as worth $11,000 assuming that Twelfth
2846 Avenue belonged to the city, to begin with?

A. No, sir; I did not.

Q. Did you not assume it at first as worth $11,000?

A. Yes, sir. I have made no difference.

Q. If Twelfth Avenue belonged to the city, there would be a corner lot at 42d Street and Twelfth Avenue, which you would have to consider. It would not be an interior lot?

A. No, it would not, if that was a fact, but Twelfth Avenue is not there at the present time and it is a question in my mind whether it would or would not, and I took the property just as I found it.

Q. Yes, but if you did not take the property as you found it for that purpose, but you assumed that Twelfth Avenue belonged to the city, and I assume, would be used by the city, then would not the lot at the corner of Twelfth Avenue which you assumed, and 42d Street be valued as a corner lot in any abstract, instead of an interior lot?

A. It would make some difference, Mr. Mathewson.

Q. Then if Twelfth Avenue does not belong to the city, you would have lots on the bulkhead and would not they be worth more than interior lots?

A. If they were not separated from the uplands, yes, but if Twelfth Avenue was cut through they would be——

Q. But I have asked a question, assuming that Twelfth Avenue was cut through, and you said it would be a corner lot. Now, I make the assumption that it is not cut through, that is, that the street belongs to the company. In that event the company would have lots on the bulkheads adjacent to its upland; and would not those lots be worth more than interior lots?

A. I do not think so.

Q. You don't think bulkheads are worth the same as interior lots, do you?

A. I don't think—it would only be used for one purpose,
2847 for unloading canal boats, etc. The piers might be worth more, but in my opinion the upland would not be worth more.

Q. Then your proposition is that lots on a bulkhead are worth no more per foot than lots on the interior of a block?

A. I say the bulkhead itself would be, but in my opinion the land here would not be (indicating).

Mr. BURR: Where do you mean by "here?"

The WITNESS: Twelfth Avenue adjoining the bulkhead.

Q. Not even the lot immediately adjacent to the bulkhead?

A. Possibly the one adjacent to it, possibly might be, but you would have to have a marginal street there in order to use your bulkhead and the lot adjoining that lot might possibly be worth a little more than one possibly fifty feet back.

Q. Why would it be necessary to have a marginal street there to use the bulkhead?

A. I think it would be to the advantage of the property; in other words, you would want to have access to the bulkhead.

Q. But if you owned the land right up to the bulkhead, which is the assumption upon which I am going, you need no marginal street to get to it?

A. Yes, but I don't think the particular location is adapted for that. I think it is too valuable for that. You could only use it for a factory or something of that sort if you utilized it, and the bulkhead would be only useful as a factory.

Q. You know it is being used right to the bulkhead by the Gas Company in connection with their business?

A. Yes, I admit it is very valuable to them in connection with the whole block.

Q. And is it not a fact that the location of this whole block, and with the pier extending out on the bulkhead, in respect to
2848 which you have not testified, gives a peculiar value to the Gas Company for its business?

A. I do not think so. I have assumed, Mr. Mathewson, that the city will cut Twelfth Avenue through; in other words, I have every reason to believe they will. They are building a sea wall now in a case I testified in between 42d and 43d Streets.

Q. I am assuming that the company owns up to the bulkhead line and of course I am assuming that the city if it does take the property, will have to pay whatever it is worth and I am trying to get at its value. My question, therefore, is directed to this point. Assuming that the company retains this property up to the bulkhead line, in connection with the pier, does it not make it a part-cularly valuable piece of property for the uses of the company.

A. I think it would for the purpose of manufacturing gas, but I have not assumed anything of the sort, knowing the fact that the city is going to cut through Twelfth Avenue and that I knew different.

Q. Well, if they did cut through Twelfth Avenue and the property in the street belonged to the company, you would assume that they would pay the company whatever under proper judicial proceedings would be found to be the value of the property?

A. In my opinion the city always pays what property is worth.

Q. I understand you have no more data here in reference to sales of individual lots in regard to any of this property regarding which you have been examined than Mr. Thompson had when he testified?

A. No, sir. We had those sales made up to date, and I have nothing new, that is, I have nothing new since Mr. Thompson testified.

Q. Taking Block No. 1092, between 44th and 45th Street- and west of Eleventh Avenue, you have included in your total of $431,000, $4,500 for buildings?

A. Yes, $4,500 for buildings.

Q. Will you describe the buildings which you have allowed
2849 at that amount?

A. The buildings were 606, 608 and 610 West 45th Street. One of them was 16 feet 8 inches by 45 feet, three-story brick with one-story extension. No. 606 was a small tenement house; in fact, they were three small tenement houses.

Q. Were they all the same width?

A. No.

Q. Give them to me.

A. One was 20 by 45; in fact, two of them were. There was only one 16 feet 8 inches by 45 feet.

Q. The others were 20 feet by 45 feet?

A. Yes, sir.

Q. Were they all five-stories?

A. Four-stories I have them.

Q. All four-stories?

A. Yes, sir.

Q. Did the yard extend to the centre line of the block?

A. It did.

Q. And three you have valued at $4,500 or an average of $1,500 apiece?

A. $1,500 apiece. In my opinion that is what they added to the market value of the land.

Q. You do not mean that that is what they originally cost I assume?

A. They cost a great deal more than that.

Q. Now, what do you give as the value of an interior lot on 44th Street and a lot on 45th Street and a lot on 46th Street, referring to Blocks 1092 and 1903, between 44th and 46th Street-, west of Eleventh Avenue?

A. In my opinion on 44th Street the land is worth $8,000; on 45th Street, $7,500; in my opinion it is worth a little more on 44th Street than it is on 45th Street on account of the gas.

Q. How much on 46th Street?

A. About $8,000.

Q. In adding to your estimate for these two blocks, made on the assumption that the city owns Twelfth Avenue, in order to get the

total which would result if the company owned Twelfth Avenue,
you have simply taken the width of Twelfth Avenue and
2850 divided that into lots and taken as the value of each lot, the value of an inside lot, have you not?

A. Exactly what I did.

Q. Exactly the same as you did at 42d Street?

A. I did. I used the same method.

Q. And similarly, if Twelfth Avenue is to be cut through, you then would have corner lots instead of inside lots at the corners of these several streets and Twelfth Avenue?

A. You would.

Q. And your reply also would apply, I suppose, as to the lot, next the bulkhead lot if the Company owned Twelfth Avenue?

A. It would.

Q. If then a revision of figures was to be made on those theories, it would add somewhat to the figures you have given?

A. It would make a slight difference, sir, in favor of the Gas Company.

Q. Will you refer on page 8 of Exhibit 48 to Block 1156 which you have valued at $40,000 for four city lots, in which amount you have included $8,000 for buildings, and describe the buildings.

A. That is situated on the south side of 65th Street. This was a four-story building, occupied by men employed by the Gas Company, in very fair condition, and in my opinion has added about $8,000 to the market value of the land.

Q. Does this building cover the entire 100 feet front on 65th Street?

A. No, sir, it is only twenty-five feet, the remainder is vacant, seventy-five feet is vacant.

Q. Is that a five-story building, did you say?

A. Four-story.

Q. Now on page 10 of Exhibit 48, Block 1704, which you have estimated at $281,584 contains some brick buildings and frame structures for which I understand you have included nothing.

A. I have not, no, sir.

Q. They are used by the Company in its business?

A. They are.

Q. And do you think they would add nothing to the land
2851 if the land was sold.

A. In my opinion they would not.

Q. Does it modify your opinion that that block is assessed for $285,000 for land only, or more than your estimate?

A. It would not affect my opinion any whatever.

Q. What is the provision for plottage that you make, Mr. McHale, in considering the values of these large parcels belonging to the Consolidated Gas Company?

A. In my opinion, of course I valued them just as I found them as a large parcel. In my opinion an individual lot would not sell within ten per cent. to five per cent. of what I valued those at.

Q. Did you find the valuation of an individual lot, and then determine from that, the value of the entire parcel of lots if sold in

small plots, and then add a certain percentage to those figures to represent plottage?

A. In some cases I did and in other cases it was a question of judgment. In a great many cases there had been really no transactions.

Q. In which of the blocks did you pursue the method I have indicated, that is to say, taking the value of individual lots and ascertaining the full values of the parcel by multiplication and then adding to that value a certain percentage for plottage?

A. I think I really did in the most of them.

Q. Have you the details showing the percentage that you added each time in such cases?

A. That I had in mind they added in the neighborhood of five to ten per cent. and in some places more than that.

Q. You do not catch my question. Have you the details here showing that?

A. No, I have not.

Q. Then you are unable to state what details you employed in each individual instance to reach a valuation upon which you added the percentage for plottage?

A. No, I do not state anything of the sort.

2852 Q. Well?

A. I state just the reverse, that I compared sales very carefully, compared sales wherever I could find them.

Q. I don't think you have followed me. I asked you whether you have for any block here a statement of the estimate which you made of the value of individual lots and indicating that you multiplied that by the number of lots in a plot and reached a valuation upon which valuation you added five or ten per cent. as plottage value to reach your total, whether you have such detail here in reference to any block?

A. No, sir, I have not.

Q. Now Mr. Thompson testified that that was not the method which he pursued and that what he did was to take the plottage and add it to individual lots at the outset, instead of adding to the valuation of the block, which he got by taking individual lots and multiplying. How do you account for the fact that you and he reached in most instances the identical figure to a cent?

A. In some cases we did agree exactly as to the value of the land.

Q. What puzzles me is how you could have reached exactly the same value to a cent by taking an entirely different method of computation.

A. I think it is an easy matter, I think it is a very easy matter.

Q. Then if Mr. Thompson took individual lots and added plottage to individual lots, and then multiplied those lots by the number in order to reach the total value of a block, he pursued a different method from the one which you indicated a few moments ago as pursued by you.

A. He has his own methods, I assume.

Q. And just how you came to come out identical as to figures in most of these blocks you cannot explain other than you have?

A. Not other than I have. I don't think it requires any explanation.

2853 Mr. BURR: Have you in mind where that testimony of Mr. Thompson appears to which you refer?

Mr. MATHEWSON: I cannot, but I think it was this morning. I think I have quoted with substantial accuracy.

Mr. BURR: I have no doubt of it, but I wanted to refer to the exact language he used.

Q. When were you retained by the City to testify in this proceeding?

Mr. BURR: Objected to as incompetent, irrelevant and immaterial.

The MASTER: Objection overruled.

Mr. BURR: Exception.

A. Some time ago, I really could not tell you.

Q. Well, I do not mean the day, but was it a month ago or a week or how long ago about?

A. I think about two weeks ago, but I have been appraising this property for three years.

Q. Well, when you made these two appraisals you said you made them for the Consolidated Gas Company. Were you retained by the Consolidated Gas Company at that time?

A. At the time that I——

Q. Made the appraisals to which you refer, the first two, or the examinations of the real estate?

A. I don't know whether I am retained or whether I am not.

Q. Were you retained by the Consolidated Gas Company, and was it in connection with that retainer that you made the examination of their property two years ago with Mr. Thompson?

A. Do you mean for Shearman & Sterling?

Q. Yes.

A. Yes.

Q. You understood that Shearman & Sterling were acting for the Consolidated Gas Company?

A. I did, yes, sir.

2854 Mr. BURR: I object to this testimony and I objected to the same line this morning. I don't know what the object is. If it is to discredit them, as you suggested this morning, if they are going to prove there is a bias or a quarrel of prejudice existing, that is one thing; but if it is merely for the purpose of spreading upon the records that they have at some time, two or three years ago, appeared for the Consolidated Gas Company as experts, I cannot see what materiality it has here. It is already in evidence as to the fact.

The MASTER: I think it is proper to show the relation of these gentlemen to the property, and what they have done about it.

The WITNESS: I have got the kindest feelings towards Shearman & Sterling, and I wrote them a letter, not to pay my bill until they got ready.

Q. Were you not retained by them prior to these examinations of the real estate?

A. I was retained by them some time about three years ago.

Q. And in that connection you made these examinations of the property to which you have referred?

A. In most of them. Some were not included in that case.

Q. But most of it was included respecting which you have testified?

A. I think 90 per cent. was.

Q. And you conferred with Mr. Thompson and Mr. Thompson and you dealt with Shearman & Sterling, and were you not retained for the examination, appraisement and testimony respecting these different parcels in *certiorari* proceedings begun by the Company against the City of New York to reduce the tax valuation.

A. In most of them we were.

Q. And in some of them you have testified?

A. I have testified really in most of them. I think I have
2855 testified in all of them with the exception of one.

Q. Are there not about 50 per cent. of them at least where you have not testified?

A. No, sir, I have testified in every case where I was retained with the exception of that little property up at Sherman Avenue and Kingsbridge, and 132d and 133d Street. In the rest of them I have testified in every one.

Q. Were you not retained in respect to the same parcels Mr. Thompson was?

A. I think I was.

Q. Mr. Thompson testified this morning or this afternoon that he thought perhaps 50 per cent. he had not testified in?

A. I have testified in a great many that Mr. Thompson has not testified in at all. Mr. Thompson I don't think has testified in any of the sixty's, that is on the west side property. I don't think he has testified on any of the west side property.

Q. Do you know whether any of these proceedings in which you have been retained has yet been concluded?

A. I have not the slightest idea, but I have every reason to believe they are not.

Q. Did you confer with Shearman & Sterling and the Consolidated Gas Company before accepting the retainer, with reference to accepting the retainer for the valuation of this same property in this proceeding for the city?

A. I have not had a conference with Shearman & Sterling, I don't think, for a year or a year and a half. The last communication I had I wrote them telling them when they got ready to pay my bill, to pay it, but did not ask them to pay it until it was settled.

Q. Haven't you testified on valuations of land in cases where you have been retained by them and have not yet testified?

A. And have not yet testified?

Q. Yes, in the *certiorari* proceedings?

2856 A. Those two I spoke of and the one up at Kingsbridge and 133d and 132d Streets. All the others I have testified in.

Q. You are under retainer then to the Consolidated Gas Company with reference to those parcels at present, not having testified?

A. I don't know whether you can call it a retainer or not.
Q. Didn't you receive certain money on account?
A. I did, with the understanding that the cases were to be pushed, that the cases were to be tried.

Mr. BURR: I think this is gone far enough. I think this is entirely immaterial and irrelevant, because the proceedings in which these gentlemen testified are matters of public record and they could bring the record here to show what they testified.
Mr. MATHEWSON: I have nothing further, therefore there is nothing to object to, as far as I know.

At 4.45 an adjournment was taken until Friday October 12th, 1906, at 11 a. m.

Last Exhibits:

Complainant's, 256.
State's, W.
City's, 54.

2857 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *Friday, October 12th*, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Meade, Mr. Burr.

2858 MARTIN MCHALE resumes the stand.

Cross-examination (continued):

By Mr. MATHEWSON:

Q. Suppose the Consolidated Gas Company were to sell all its property at 42d Street, its real estate, and were to announce before making such sale that the manufacturing plant was to be discontinued and disposed of there, what effect would that have on the value of the land or the selling price of the land?
A. Why, I think it would sell for considerably more, particularly so 42d Street.
Q. As a matter of fact, it would have the same effect, differing only in degree, in the case of any of its plants, wouldn't it?

Mr. BURR: I object to that line of examination. The question is

here what was the valuation of this property at the time this law which is said to be confiscatory went into effect.

Mr. MATHEWSON: The witness is giving the amount for which it will sell. If we sold our plant at 42d Street that very element of sale is involved; and it would be sold, under ordinary circumstances, of course, not for a gas plant, but for improvements in other directions; and the very fact we sold it would increase its value above the value of surrounding property to-day.

Mr. BURR: I press my objection, because there is nothing to show what would be the conditions existing subsequent to the present when they might make up their mind to sell or remove their plant. The existing situation at that time or what the valuation of the property at that time might be is purely speculative. The question
2859 is, what is the value of this property now, and what was the value when the law went into effect as against this company.

Mr. MATHEWSON: You and Senator Page asked precisely the same question on cross-examination of our witnesses; what would be the effect on the sale of this property if they were sold and the plants discontinued?

Mr. BURR: You asked that question on direct, and we had the privilege of cross-examination.

Mr. MATHEWSON: No, I did not.

Mr. BURR: I object to it as incompetent and immaterial. We might indulge in speculation along this line *ad nauseam,* but it would have no bearing on the issues in this case, it seems to me.

Mr. MATHEWSON: You say it is the selling value. I am finding out what the effect would be as related to the figures given by this witness if all the blocks, for instance, in any particular locality, should be sold.

The MASTER: I think it is a fair question on cross-examination, in view of the testimony that has been given, to ask the witness on various hypotheses and test his views as to the value of the property. At the same time I think there is considerable force in your objection, Mr. Burr. If the question is as to what amount of capital is fairly locked up and employed in real estate by the Consolidated Gas Company for the purposes of their business, it may not be very material to get at the value of the real estate under conditions which entirely negative their doing business. That I apprehend to be the force of your objection?

Mr. BURR: Yes, sir.

2860 The MASTER: But I will allow it. I think it is proper under the circumstances, and will give you an exception.

A. I think if your gas plant was removed entirely from 42d and 41st Streets it would have a very decided effect upon values there.

Q. And the values which could be obtained for the lands of the Consolidated Gas Company, if it were announced that all the lands would be sold for purposes of other improvement, would be considerably increased in that event, would they not?

A. In my opinion, sir, they would.

Q. And would not that be true in all the other localities in which the company has plants, in greater or less degree?

A. If they were all removed, it would, yes, sir. It would apply to them all possibly.

Mr. BURR: When you say "plants" do you mean plants and holders all removed?

Mr. MATHEWSON: Manufacturing plants. The objectionable part of a gas plant is the manufacturing plant, isn't it?

The WITNESS: That is what I assumed to be the case.

Mr. MATHEWSON: Holders are not such a serious proposition.

Mr. BURR: You do not claim they are not objectionable?

Mr. MATHEWSON: They are not so very objectionable. There are holders in some very good localities. It is the fumes and noise and dirt from manufacturing which are particularly objectionable.

Redirect examination by Mr. BURR:

Q. Now, what might occur by that possibility of the Con-
2861 solidated Gas Company taking away all its manufacturing plants is merely speculative on your part, is it not?

A. Entirely so, sir.

Q. You have no way of gauging any opinion upon that by conditions that might exist in the future?

A. Not the slightest; it is purely speculative.

Q. You have been asked several times as to whether the assessed valuation which was stated in certain figures by Mr. Mathewson as having been given in the testimony here affected your valuation in any way and you answered no. Now will you say what reason there exists for the failure of that assessed valuation to affect your valuations as you have given them here?

A. Why, an assessor is human, the same as I am, and he is liable to make a mistake the same as I have often done. I never pay any attention to assessed valuations in valuing property. I familiarize myself with sales, leases and everything pertaining to real estate and have an idea of my own as to what the property would sell for, irrespective of any assessed valuation. I have known several cases where, in my opinion, the property has been assessed fifty per cent. or seventy-five per cent. more than it would really sell for.

Q. As a matter of fact, in these proceedings wherein you were retained by the Consolidated Gas Company, your services were called into operation to show that the assessed valuations were not the proper valuations in your judgment, that they were excessive?

A. I was called in consultation in regard to these cases and several others. In some cases in question we advised *certiorari;* I think in quite a number we advised to discontinue those particular cases in question. With the exception of a very few, in my opinion, for the year 1903 they were assessed entirely too high.

2862 Q. The testimony taken in these *certiorari* proceedings is a matter of public record, is it not—I mean your testimony?

A. I suppose it is, sir.

Mr. BURR: And I do not think it will be claimed that the City of New York has not a copy of that testimony?

Mr. MATHEWSON: I do not think it is of the slightest importance. I place no weight on that suggestion.

Q. Were the valuations which you gave in this proceeding on behalf of the Consolidated Gas Company honest and fair valuations according to the best of your judgment and opinion?

Mr. MATHEWSON: I do not know that that is very material.

The MASTER: I will allow it.

A. They were, sir.

Q. Does that apply to the values given by you here?

A. The values I have given here are very much above the ones for 1903, and it is the very best of my opinion, my judgment.

Q. That is, the valuations that you gave here were the same valuations that you gave for the Consolidated Gas Company, with the addition of an appreciation which has accrued since, in your opinion?

A. With the appreciation which has accrued since 1903.

Q. So in every case that you have testified here your valuation is higher than the valuation given by you when you were testifying for the Consolidated Gas Company?

A. In some cases fifty per cent. higher.

Q. And *I* say that the testimony you have given here in this proceeding as to the values was the result of your honest judgment and opinion?

2863 Mr. MATHEWSON: He has so testified. Once yesterday and once to-day.

A. It is, yes, sir.

Recross-examination by Mr. MATHEWSON:

Q. You testified that the figures that you have given are the amounts for which, under ordinary circumstances, you believe the real estate would sell for?

A. I have.

Q. Now if the company sold some of its land at 42d Street, wasn't it your assumption that it would sell it for some other purpose than a gas plant?

A. If they did sell it, I assume that they would sell it for some other purpose than manufacturing gas, yes, sir, otherwise it would not increase——

Q. Then, what you did mean by saying a moment ago that it would be a matter of pure speculation to give the value that the land would sell for if sold for some other purpose?

A. It is impossible to give an idea of what it might sell for. It might sell for fifty per cent. more or one hundred per cent. more, I couldn't tell. It is a matter purely of speculation.

Q. Have you not, in making the estimate of the price at which this land would sell, having it in mind as you had that if sold it would be sold for some other purpose than manufacturing gas, tried to determine what effect that would have on the value if it were sold for other purposes?

A. I appraised the property for what it would sell for to-day.

Q. For what purpose?

A. Any purpose. I am not supposed to know the purpose. I did not take that into consideration.

Q. But, if sold for some other purpose than manufacturing
2864 gas, would it not involve the elimination of the gas manufacturing nuisance from that section?

A. It might be sold for a factory that would be more of a nuisance than a gas plant, as far as that is concerned.

Q. You assumed it would be sold for some purpose that would be at least as much of a nuisance as a gas plant, did you?

A. I valued the property as I found it. I did not take into consideration what it would be used for afterwards, and I don't know what it would be used for. I appraised it just as I found it to exist now in the city.

Q. But you have stated if it would be sold for some other purpose than a gas manufacturing plant, and that purpose would be less of a nuisance than a gas manufacturing plant, that the figures which you have given here would necessarily be increased more or less?

A. But how much, sir, I could not say.

By Mr. BURR:

Q. Has there been an increase in the valuation of this property and other property in the City of New York since the 1st of July, 1905?

A. Since the 1st of July, 1905?

Q. Yes.

A. Oh, there may be a slight increase. There has been a decided increase since 1903. In 1903 real estate was very low. There was quite a depression in the financial section, consequently it affected real estate, particularly so high-priced real estate. In fact, it did up to 1904, August, 1904. Since August, 1904, or July, 1904, I might say, to 1906, I think there has been a decided increase all over the City of New York.

Q. What would you say, in your opinion, has been the increase during the past twelve months in property, this property especially.

Mr. MATHEWSON: Which property?

2865 Mr. BURR: The property he has been testifying regarding.

A. Most of it is taken between 1904 and 1905, I should say, perhaps in the neighborhood of five per cent. of it might be; I don't think it would exceed that.

By Mr. MATHEWSON:

Q. That would be on the average to all the land?

A. I should say certain sections, of course. The big boom was in 1905, as low as 98th Street on the East side, and on the West side in 65th Street and through that section there has been a decided increase there; also in 132d Street, on the West side, there has been a big increase in land up there since the Subway was opened.

By Mr. BURR:

Q. But on the whole, with regard to this property, you would say on the average there has been an increase in the past twelve months, or since the first of July, of about five per cent.?

A. I should say so, sir.

2866 *Water Front Property.*

Direct examination by Mr. BURR:

Q. Now, have you made water front property in the city of New York a study, and, if so, for how long?

A. About twenty years.

Q. Are you familiar with the sales and leases of piers and bulkhead property in the city of New York on the North and East Rivers?

A. I am, sir.

Q. Please state what pier and bulkhead property you have appraised in the city of New York in the last ten years, also for whom you have appraised?

A. I have appraised the Brooklyn Wharf and Warehouse property twice—I might say three times—I have appraised—I will take on the other side first, then come back on the East River, if you have no objections. I have appraised the ferry property, Williamsburg Ferry, the Greenpoint Ferry, and also on the East River Pier 9, Pier 10, Pier 11, Pier 13, Piers 18, 19, 20, with all the bulkheads; Pier 36, Pier 35, water front between 8th and 9th Street, with the land under water, which I have for sale; also the land under water with upland, bulkhead, between 4th and 5th Streets on the East River, between 18th and 19th Streets, 19th and 20th, 28th and 29th, 36th to 37th, 44th to 46th. On the North River I have appraised 42d to 43d Streets, bulkhead and land under water; I have appraised from 44th to 46th Streets on the North River, from 46th Street to 48th Street on the North River, 121st to 152d Street on the North River; and my clients have been the City of New York, Brooklyn Wharf and Warehouse Company, Title Insurance Company, New York Dock Company, United States Mortgage & Trust Company. There were other piers and bulkheads that I have been connected with more or less, but I do not just recall them.

2867 Q. Now, have you examined the water front bulkhead property of the Consolidated Gas Company as the same appears upon Exhibit 48 in this case?

A. I have.

Mr. MATHEWSON: I wish to make an objection here that the witness, not having bought and sold bulkhead property, is not qualified to testify on this subject. He has not been shown to be qualified within the rules of law.

The MASTER: I will overrule that objection, Mr. Mathewson. I think it is well understood that transactions in bulkhead property in the way of sales are so infrequent that no man in the city of New York can really claim to be called a specialist in that line and have that as any considerable amount of his business; but I think any real estate man of experience in New York is customarily permitted to express his opinion on bulkhead property. I took that view in the case of Mr. Wheelock when he was objected to, and I take the same view here.

Mr. BURR: Mr. Wheelock had no such experience as this gentleman has had.

Objection overruled, Exception.

Q. Have there been sufficient sales of bulkhead or pier property within the past few years which, in your opinion, would make a fair criterion as to values?

A. In my opinion there is not, neither on the North nor the East River.

Q. Now, in your opinion has water front property increased or decreased in the past few years?

A. In my opinion it has increased, sir. That is, I think piers have, shedded piers. I think piers have increased more than bulkheads have.

Q. Now, we will take up the bulkhead property or water front property of the Consolidated Gas Company, if you please.

2868 Which piece did you examine first?

A. I have got between 14th and 16th Street here as the first.

Q. That is the bulkhead property on Tompkins Street?

A. Yes, sir, situated between 14th and 15th Streets.

Q. Appearing on page 2 of this Exhibit. Now will you describe that property and tell us all you know about it and give us your estimate as to the value of it?

A. There are about 30,318 square feet; in other wor-s, 450 by 70 feet, equal to 30,318 square feet, in my opinion, worth about $2 a square foot, or $60,636. There are 446 feet, 4 inches of bulkhe-d at $200 a foot, which would be $89,480, or a total for the property of $150,116.

Q. Now take the next property.

A. I have taken the next, between 41st and 42d Streets.

Q. That is the bulkhead property appearing on page 5 of the Exhibit?

A. Yes, sir.

Q. 41st and 42d Streets. Now will you please describe that property and tell us what your valuation of it is?

A. There are 197 feet and 6 inches of bulkhead, at $250 a foot, would be $49,375. Now the pier rights, I have taken your exhibits assuming they were correct, I have assumed you could erect a pier there 60 by 700 feet, running out to the pier head line established by the Secretary of War in 1900.

Mr. MATHEWSON: You said you had 197 feet 6 inches, at how much a foot?

A. 197 feet and 6 inches at $250 a foot equals $49,375.

Q. Continue in regard to the 41st Street property.

A. I assume pier rights 60 by 700 feet equal to 42,000 square feet. In my opinion the pier rights ought to be worth $6 a foot or $252,000.

Q. That is larger than the complainant's witnesses have given?

A. Yes.

2869 Q. The next parcel of bulkhead property is between 44th and 45th Streets?

A. Yes, sir. Land under water.

Q. That is known as Block 1107, Lot No. 23. Proceed.

A. Between 44th and 45th Streets, land under water. 70 feet by 200 feet 10 inches, or about 14,756.10 square feet, in my opinion worth $2 a foot, or $29,512.20. Between 45th and 46th Streets the same number of square feet, 14,756.10, at $2 a foot, $29,512.20, or a total of the land under water of $59,024.40. The bulkhead between 44th and 45th Streets, 200.83 feet, at $200 a foot, would be $40,166. Between 45th and 46th Streets, the same number of feet, at $200 a foot, $40,166, or a total of $80,332 for the bulkheads, or a total for the land under water and bulkhead of $139,356.40.

Q. The next parcel is on Pleasant Avenue?

A. Pleasant Avenue, situated between 110th and 111th Streets. Land under water about 9,400 square feet, in my opinion worth about $1 a square foot, would be $9,400. There are 212 feet of bulkhead, at $100 a foot, would be $21,200, or a total of $30,600. Now I have inspected Shadyside. I do not think that has any number.

Mr. MATHEWSON: Is that all the bulkhead property?

The WITNESS: I think it is. 14th to 16th Streets, 110th to 111th Streets, 44th to 45th Streets.

Mr. MATHEWSON: Did you not appraise the West 16th, 17th and 18th Streets, which the city has taken?

The WITNESS: No, I did not. Now, Shadyside property situated on the Jersey side of the Hudson River——

Mr. MATHEWSON: May I ask a question as to his qualifica-
2870 tions to appraise a Jersey property?

Mr. BURR: Of course.

Q. Have you bought and sold any property in Jersey in the vicinity of Shadyside?

A. The nearest, sir, is West Hoboken. I have bought and sold—in other words, I bought it and sold as quick as I could.

Q. How long ago was that?

A. About five or six years ago.

Q. How much, not in money, but in area?

A. One piece of property.

Q. This Shadyside property is on the water, is it not?

A. It is on the water down underneath the cliff.

Q. And a railroad running across the rear?

A. Yes, sir.

Q. Have you bought or sold any other Jersey property in that section?

A. Not in that section; no, sir. I have appraised all through there, though.

Mr. MATHEWSON: I submit the witness is not qualified.

The MASTER: I will allow it.

Mr. MATHEWSON: Exception.

By Mr. BURR:

Q. Proceed.

The WITNESS: It contains about 611,700 square feet, or equal to about 245 city lots with water front, and I have taken the property as a whole, as a whole proposition. The property is entirely vacant, with the exception of a pile of coal being on it, with an iron runway from the river up. In my opinion that property is worth in the neighborhood of $45,000 as a whole, or $1,000 a lot. I have not divided that, for the reason that in my opinion they are in-
2871 separable, adapted for only one purpose, and in my opinion I would simply give one lump sum. I think the property would sell as a whole for about $1,000 a lot.

Q. Is that all water front property at Shadyside?

A. No, it has a frontage on the water there of about 486 feet, and all this is upland from here back (indicating), but I have treated it practically as water front property for the reason that it is only adapted for factory property, etc., being low ground, and most of the large institutions over there occupy large tracts like that, the Glucose Company occupies next to it there, and——

Q. You mean by institutions, factories of that sort?

A. Yes, and sugar refineries, etc.

Q. Now give the total of the bulkhead property?

A. Including Shadyside?

Q. Yes.

A. $871,447.40.*

Q. Does that include the bulkhead and pier property at Shadyside and land under water?

A. Yes, sir, everything with the exception of the upland which I testified to yesterday, or a total for the land under water, bulkheads, pier rights, Shadyside and upland, $10,689,013.14.

Q. That is the grand total of all of the real estate property of the Consolidated Gas Company?

A. That I have appraised, yes, sir.

Mr. BURR: He is your witness, Mr. Mathewson.

Cross-examination by Mr. MATHEWSON:

Q. This excludes all valuation of land at 18th Street which was taken by the city, but which, the testimony is, is still carried by the Consolidated Gas Company as land, in view of the fact that they have not been paid for it yet?

A. I have not included that 18th Street property in my valuation.

Q. Neither the land nor bulkheads nor land under water,
2872 nor pier rights, whatever they are, there?

A. None whatever.

Q. Now, in reference to Shadyside, is it not greatly to the advantage of the property, so far as value goes, that it has a water front and that it has a railroad running along the rear?

A. It would not be worth half of it if it did not.

Q. And it is much more valuable for factory purposes than it would be for any other purpose over there in that section?

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* Should be 886,447.40. See page 2901.

A. In my opinion it is only adapted for factory purposes.

Q. It could not be used for that purpose if it was high land, as some of the land is on the Jersey shore?

A. It is well adapted for factory property, as the other property similarly situated there. Of course, that property is entirely vacant, with the exception of a pile of coal there.

Q. Is property in that section increasing in value?

A. It has increased; in fact, there has been quite a boom there in the last four or five years, but I think it is at about its highest mark.

Q. What percentage of increase would you consider there has been in the last four or five years?

A. I could not answer that. It is impossible for me to say. Further up on the heights there has been a very decided increase, more so than in the factory sites. They have been selling building sites off at almost any price they ask for them along the Palisades, but there has not been such an increase in the last year or so for factory sites over there.

Q. Referring to the bulkheads at East 14th and 15th Streets, and the land under water, I see you have the bulkhead rights valued at $200 a foot?

A. I did, yes, sir.

Q. Are you familiar with the prices established for the bulkhead rights between 19th and 20th Streets and the East River in
2873 the condemnation proceedings?

A. That is in connection with upland as well, I understand it, Mr. Mathewson.

Q. Well, at Tompkins Street, the company owns all the land, does it not, adjacent to these bulkheads, across Tompkins Street, East 14th and 15th Streets?

A. They do.

Q. And is it not a fact that Tompkins Street at that point is virtually cut off so that the company has the full use of the street between its uplands and the bulkheads?

A. They have free access to it; they have not any monopoly of it any more than anybody else.

Q. No, but from the nature of things, have they not practically free use of that bulkhead?

A. As much as anybody else. Of course, Tompkins is a public street.

Q. Is it not closed above 15th Street?

A. Above 15th Street it is. The hospital runs out there.

Q. So it is not a free street for travel along the river front above that point?

A. It is not what you would call a thoroughfare.

Q. So the company would have relatively much more exclusive rights to this bulkhead line so far as traffic is concerned than they would have if Tompkins Street was not closed at the upper end?

A. I have used 15th Street several times; I have had cargoes of coal come down there to the bulkheads.

Q. But there would not be the same traffic as there would be on West Street, for instance, which is open above and below the pier?

A. That is one of the things that depreciates that property, the fact of Tompkins Street being cut off.

Q. It does not depreciate the value of these bulkhead rights to the Consolidated Gas Company?

A. I don't think it enhances them; that is my opinion, it does not.

Q. Do you know what the price fixed in the condemnation
2874 proceedings for the bulkhead rights between 19th and 20th Streets was?

A. I heard of them, but I don't just remember. They took in upland with them.

Q. I refer to the bulkhead rights.

A. That was condemnation proceedings, and I don't always consider those the best criterions of value, for the reason they add the cost.

Q. They were condemnation proceedings by which the defendant, the City of New York, acquired the property?

A. They were.

Q. Is it not your recollection that $300 per foot was obtained for those bulkheads?

A. I have a recollection it was somewheres along there, in the neighborhood of $200 to $300. I think it was $250, although I am not just clear on that. If I remember right, it was $250.

Q. My information is $300, and I do not think I am mistaken, Mr. McHale. Well, take the condemnation proceedings for the bulkhead rights between 20th and 21st Street and the East River. Mr. Wheelock, or Mr. Green, I think, testified that the amount fixed in those condemnation proceedings was $350 per foot for the bulkheads, as against your $200.

A. Yes, sir.

Q. Are you not familiar with that proceeding?

A. I am, I have a record of it.

Q. Is that correct?

A. I think it was $350 that the Commissioners allowed for it, but they also took upland together as well.

Q. Well, you did not mean to say that the $350 covered the upland?

A. No, sir. If I remember right, $350 they allowed for the bulkheads.

Q. Are you quite sure that the land adjacent to these bulkheads belonged to the same owner as the bulkheads?

A. I think they belonged—I know the man that leased
2875 them, for I have been down there hundreds of times, H. L. Hurlbut, the coal man, at the foot of 20th Street there.

Q. Do you know of any land under water acquired in the vicinity of East 14th Street at $2 a square foot recently?

A. I have got some for sale at less, in a better location.

Q. Is it around East 14th and 15th Streets?

A. It is between 9th and 10th Streets, which, in my opinion, is worth a great deal more than 14th Street to 15th Street.

Q. I suggest you send a description of it to my clients. They would be glad to see you.

A. I would be very glad to, sir.

Q. Now let us take the bulkhead rights and land under water at West 42d Street. You have given the value of pier rights at $252,000, with which I shall not quarrel. Now let us take the bulkhead at $250 a foot. Do you know of a sale of bulkhead rights between 58th and 59th Streets west?

A. Which sale do you mean? There were two sales; that was sold twice, if I remember right.

Q. Was it not sold once for $650 a foot?

A. No, sir, I haven't any recollection of that.

Q. I think Mr. Wheelock testified to it.

A. There are really so few sales of bulkheads and pier rights that I have not taken them into consideration. In other words, while sales are really the best criterion of value, in bulkhead and water property they are not, because there are so few. In other words, most of the bulkhead property and water rights are owned by different individuals; in some cases I know where there are sixteen different individuals owning the property, where frequently parts of the property are sold, and it does not represent the value of the whole. The best criterion, in my opinion, is what it will rent for in ordinary conditions, capitalized on a certain percentage.

Q. And you found that was the one basis upon which
2876 Mr. Greene gave his testimony, did you not, if you have read his testimony?

A. I read his testimony, but I do not agree with him.

Q. Are not the sales of bulkheads one of the best means of determining what the value of those bulkheads are, if you are trying to figure out what their value is in total and not their rental value?

A. No, sir. A steamship company owning a pier may pay four times what a bulkhead is worth in order to control the slip, where an individual could not rent it for more than one-eighth part of what it is worth to the steamship company. You can take any pier from 34th to 59th Streets, and there is not any one of them which is rented on more than a four per cent. basis.

Q. Do you mean to say that these bulkheads are not worth what they would sell for?

A. No, sir, a bulkhead, in my opinon, is not worth very much unless it is connected with the upland.

Q. But if people are willing to pay $650 a foot, is it not worth that amount then?

A. There may be circumstances where they would pay one thousand dollars, but that would not interfere with my opinion.

Mr. BURR: Because there may be some special circumstances?

The WITNESS: Most decidedly.

Q. I am quite willing you should distinguish if there are any special circumstances, but if the testimony of Mr. Wheelock be correct, that the bulkheads between 58th and 59th Street west sold for $650 a foot, would not that indicate a greater value of bulkheads than $250 per foot at 42d Street?

A. Capitalized on those figures, of course it would.

Q. Are not piers at 42d Street, and are not bulkhead rights
2877 at 42d Street worth more than they are at West 59th Street?

A. Yes, sir; 59th Street there is quite a grade, at least two per cent., in fact, down at 42d Street I think it is worth twenty-five per cent. more.

Q. Mr. Green's testimony was that this was worth $750 at 42d Street. Now, if it be true that at 59th Street bulkheads are worth $650 per foot, they certainly would be worth $750 at 42d Street, would they not?

A. I do not claim so.

Q. Well, if they were worth $650 at 59th Street, would they not be worth $750 at 42d Street?

A. Of course, using those methods, it would, yes.

Q. Are you familiar with the amount established in condemnation proceedings for the bulkhead rights between 51st and 52d Streets and the North River?

A. I was told about it.

Q. And the bulkhead rights are worth more at 42d Street than they would be at 51st and 52d Streets, per foot, are they not?

A. Well, there is not very much difference. You take that whole section, even 59th Street; 59th Street is where the stock yards are. Bulkheads there are valuable for the purpose of unloading cattle, and live stock, etc. And at 52d Street—in my opinion there is very little difference.

Q. Well, aren't you aware that $500 per foot was fixed as the value of the bulkhead rights at 51st and 52d Street- in the condemnation proceedings?

A. I am not responsible for what commissioners do.

Q. I understand that.

A. I think those were the prices that were awarded.

Q. Are you familiar with the stipulation to which Mr. Green testified in reference to the bulkheads at West 11th Street to Gansevoort Street, by which $500 per foot was fixed by stipulation?

A. I have been reading Mr. Green's testimony for years, and am familiar with every word of it.

Q. Are you familiar with that transaction?

A. Yes, I know it to be a fact.

2878 Q. And are you aware of the fact that between 22d and 21st Streets and North River, bulkhead rights were established in condemnation proceedings as worth $900 per foot, which Mr. Green testified was the figure that he gave in that case?

A. I am not aware that the awards are made.

Q. If Mr. Green testified that it had been made at $900, and that was exactly the figure he made, you would not doubt it, would you?

A. I would want to know it to be a matter of fact. I don't think the award has been made, sir; in other words, I have not seen the records.

Q. Well, it has been testified to here that it has been made, Mr. McHale.

A. But that really would have no bearing on the value of 42d Street or 44th Street or 46th Street in my opinion.

Q. Has there not been a very large increase in values at 42d Street and along 42d Street in the last few years?

A. Not near as much as there has been south of 34th Street.

By Mr. BURR:

Q. As I see Mr. Greene's testimony, he is the one who fixed the valuation at $850.

Mr. MATHEWSON: No, he said they accepted his figure on that. You asked him if they did accept his figure on a previous condemnation proceeding and he said they did not, but accepted a lower figure, and then he said they did accept his figure in that condemnation proceeding at $900 and that has been awarded.

The WITNESS: I have not seen it, Mr. Mathewson.

Mr. BURR: He says, I have heard, that they gave $900 a foot.

Mr. MATHEWSON: Yes.

Mr. BURR: As you are asking Mr. McHale if he heard
2879 that Mr. Green heard that it was awarded?

Mr. MATHEWSON: No, I am not asking him if he is familiar with the fact that that award had been made, and he replied that he did not know that it had been made.

The WITNESS: I was not familiar with it, no, sir.

By Mr. MATHEWSON:

Q. Do you know of an award for the bulkhead property between 42d and 43d Streets?

A. I have heard of it I was on that case.

Q. How much was that?

A. I don't just recollect.

Q. Was not that $500, or twice that you have figured here?

A. It was more than I figured.

Q. Is it not your recollection that it was $500?

A. Well, there were certain circumstances connected with that and perhaps I am a little more familiar with them than most people. There was a sea wall there that the city had built costing in the neighborhood of $300 per running foot, that the Commissioners allowed them for.

Q. Was not the award $600 or $650 between 42d and 43d Streets?

A. It was above my figures, but my figures were without the sea wall. There was a sea wall which cost all the way from $350 to $400 a running foot.

Q. What were your figures at that time?

A. I think $200 or $250.

Q. For whom did you testify in that connection?

A. The City of New York, but they awarded in addition the value of the sea wall.

Q. The City of New York was the party that was condemning the property at the time?

A. They were.

2880 Q. Was not the award for the sea wall separate from the bulkhead rights?

A. I don't think so.

Q. Now, you have given for the bulkhead rights at 44th Street to 46th Street, North River, only $200 per foot in your estimate. If there is not very much difference in value between 51st and 52d Streets and 42d Street, I suppose that there would be very little difference in value between 42d Street and 44th and 46th Streets, would there?

A. I think 42d Street is worth a little more because it is a thoroughfare, and I think bulkhead rights there are worth a little more than they are north of there.

Q. And are bulkhead rights at 44th to 46th Streets worth more than they are at 51st to 52d Streets?

A. I do not think so. I do not think there is but very little difference. It is all used for practically the same purposes, the landing of live stock and factories and one thing and another and building material. The leases do not show it. They are leased for about the same amount between 42d Street and you might say 59th Street. All the leases which I have here, some of them leased for less money really down towards 42d Street. It depends upon circumstances.

Q. If bulkhead rights are worth $650 at 58th Street and are worth $500 at 51st Street and 52d Street, they certainly would be relatively worth more than $200 at 44th and 45th Streets?

A. I do not acknowledge your figures.

Q. I know, but on that assumption?

A. Most decidedly, yes, sir.

Q. I am merely taking the sale made at 51st Street and 52d Street, without arguing that that established a value.

A. Yes, sir.

Q. Now as to land under water at 44th and 45th Streets, you valued it at $2 a foot?

A. Yes, sir, or about $5,000 a city lot.

Q. On what basis do you make that estimate?

2881 A. It would cost a good deal to fill it between that and the bulkhead and would cost the difference between that and what I have allowed for the upland.

Q. You have proceeded on the same basis, allowing $2 at East 15th and 14th Streets?

A. Land under water?

Q. Yes.

A. No, I have taken it because I have some property in the same neighborhood which is better than 14th Street in my opinion.

Q. How far is the property you own from the property of the Consolidated Gas Company?

A. Ninth and Tenth Streets, only four blocks away.

Q. How much have you for sale at that price?

A. The whole block front with upland, also land under water, twenty-five lots. I will sell it at $3,000 a lot and the bulkhead at the rate of $150 a running foot.

Q. And the land under water at $2?

A. Less than $2, $3,000 a lot.

Q. What is the character of the upland there?

A. Flat land which used to be occupied by the Roach Shipbuilding Company, now owned by the estate of Roach.

Mr. BURR: The Novelty Iron Works?
The WITNESS: Yes.

Q. Do you own it personally?
A. I am sorry to say I do not own it. I have only got it for sale.
Q. For an estate?
A. For an estate, the Roach estate.
Q. Unimproved?
A. Unimproved.
Q. It brings in no income?
A. It does. The lots are rented at so much a year for the purpose of storing coal, lumber, etc., but there are no buildings on it.
Q. Do you know of any land under water which has been recently sold for $2 a foot in the neighborhood of West 44th and 45th Streets?

A. No, sir.

2882 Q. What do you consider the rental value of land under water in the vicinity of West 44th and 45th Street- per annum?

A. Well, it depends very largely upon circumstances. I know of leases by the City where they leased it as low as 5 cents a square foot per year, and I have known cases where it has rented for 25 cents as well.
Q. Don't you know that at West 40th Street, only four blocks from this property, land was leased at 25 cents?
A. It might have been.
Q. In 1887 and renewed in 1898?
A. It might have been. Where did you say it was?
Q. 924 square feet under water, West 40th Street. If you assume that this land under water at West 44th and 45th Streets, is worth 25 cents a square foot, which was the rate of that rental, what valuation would that make?
A. $12,500 a lot.
Q. How much would that be all told in place of the figures you have indicated here upon that basis?
A. I would have to figure that out.
Q. You took, didn't you, ten cents, or what did you take as the rental per square foot?
A. I did not take any rental? You mean between 44th and 45th Streets, land under water?
Q. Yes, supposing you assumed that to be rented or rentable at 25 cents per square foot per annum, as the land at 40th Street is rented, what valuation would you think applies to the land under water?
A. They are both the same as between 44th and 45th Streets.
Q. Yes, just the same, 401.6 feet.
A. It equals practically twelve lots, a trifle less than twelve lots, which would be practically $150,000 at $12,500 a lot.
Q. Let us take the Pleasant Avenue bulkheads next. If I understand correctly, you have valued the land under water there at $1 per square foot, is that right?
A. Yes, sir, about $2,500 a lot.

Q. Did you testify in the East River tunnel condemnation
2883 proceedings as to the value of land under the East River from 110th Street to Astoria?

A. I testified for the State as to the land under the river.

Q. Well, you testified as to the land under the river?

A. Yes.

Q. What did you testify was the value of the land under the bed of the East River per foot?

A. I don't just recollect now.

Q. Well you testified as to the value merely of an easement?

A. Of an easement.

Q. Was not your testimony that that was worth 40 cents a foot, for the easement?

A. I don't remember just what I testified.

Q. Is it not your best recollection that 40 cents per square foot of surface area of the section over the tunnel was easement?

A. I should have to refer to my testimony. That was two years ago, I think.

Q. Can you not remember what you did testify as to that?

A. I never carry those things in my head, Mr. Mathewson.

Q. I wish you would assure yourself on that subject and then I will ask you that if the value of an easement under the bed of the East River was worth 40 cents per square foot, how you reconciled that with the testimony that the value of land under water next to the bulkhead and useable is worth only $1 per square foot in fee.

A. I do not claim it is useable. There is a very swift current on the East River. This is right opposite Ward's Island, and it is almost impossible for a boat to stay there.

Q. Didn't you make your estimate of $1 on the theory it is unuseable?

A. It is not entirely so, but it is not adapted for shipping.

Q. Do you mean to say that if the easement of land under water under the bed of the East River, the tunnel being 200 feet down, is worth 40 cents per square foot that the value of land under water adjacent to the bulkhead at 110th Street from which that
2884 tunnel starts is worth only $1 per square foot?

A. I do, and if it were 300 feet, it would be worth more. The deeper down you go, say between 200 and 300 feet, it is worth more than if it was 10 feet, and I so testified, for the purposes of a tunnel.

Q. Explain that a little. I don't quite understand you.

A. In my opinion it was worth more 200 feet under the bed of the river than if it were 10 feet.

Q. What is worth more?

A. The land for the purpose of digging a tunnel.

Mr. BURR: That is, you mean the easement.

The WITNESS: The easement is worth more 100 feet below than it would be 10 feet or one foot.

By Mr. MATHEWSON:

Q. Is not a fee worth more than an easement?

A. Worth more, and I have allowed more.

Q. Do you mean to say then, that if the easement in the City relating to the land under the bed of the East River 200 feet down is worth 40 cents per square foot, in connection with this tunnel, that the land under water on the 110th Street front, inside the bulkhead line, is worth in fee only $1.00?

A. I do, and I think I was too modest in placing my value at 40 cents a foot on the tunnel for the easement.

Q. I do not see why you have allowed us anything here, in that case. Let us take the bulkhead rights which you have put at $100 per foot——

A. Running foot, yes, sir.

Q. Do you know what the bulkhead at 109th Street to 110th Street is leased for?

A. Is that by the City?

Q. It was leased in 1905 by the City, I suppose, I am not
2885 sure for the moment.

A. Where did you say that was?

Q. 187 feet between 109th and 110th Streets?

A. I have not got that. There is record here.

Q. Assuming it were leased at $1,800 per year in 1905, that would indicate a greater value than $100 per front foot on that basis, would it not?

Mr. BURR: Is not that the lease which was never carried out, which has been spoken of?

Mr. MATHEWSON: I do not know, Mr. Burr. The testimony was that the lease of the bulkhead between 109th and 110th Streets was for $1,800 and that it was made in 1905.

The WITNESS: That would indicate a value of about $160 a foot capitalized on a six per cent. basis.

Q. Was this proceeding in reference to the East River Tunnel in which you testified for the State, a proceeding by the East River Gas Company to acquire from the State the right to put its tunnel under the river, as you understand it?

A. No, if I understand it, it was really the State and City jointly.

Q. Well, whatever it was, the object of it was to determine what the company should pay to the State for the right to put the tunnel under the East River?

A. Well, it was a question between the State and City as to who was entitled to compensation.

Q. That may be, but as far as the company was concerned?

A. As far as the company was concerned, yes.

Q. To determine what they should pay for the privilege of putting their tunnel under the East River?

A. Yes, sir.

Q. Will you not be good enough to ascertain if you did
2886 not testify that the easement in that connection was worth to the State or whoever owned the land under the East River, forty cents a foot?

A. In my opinion it did, and I think if I had to testify again I would say fifty cents.

Q. Then you think it is worth fifty cents?

A. I think it is worth one-half of the fee for that particular purpose.

Q. Do you mean to say that a fee under the navigable water of the East River is worth half as much as the fee of land inside the bulkhead line?

A. In this particular instance, yes, for the purpose for which it was to be used. I assumed that the Consolidated Gas Company employed the brightest engineers in this country and Europe. They examined both sides of the river from 34th Street up to and above Ward's Island for the best location for their tunnel, and I assumed that it was the best location, consequently it was worth more to the—it was worth that much, not alone to your company, but to any other company for building a gas tunnel.

Q. This tunnel was run from 110th Street to Astoria?

A. Yes, between 110th Street and 111th Street in that little jog where it comes out to the bulkhead.

Q. Well, you know that the Department of Docks acquired in or subsequent to 1884 a number of bulkheads by agreement with the owners upon the approval of the Commissioners of the Sinking Fund, did they not?

A. I knew they did.

Q. And that has been their policy to acquire them?

A. They always tried to acquire them when they could get them for a reasonable compensation.

Q. Don't you know that the bulkhead rate varied then from $450 to $600 a foot?

A. Yes, and even down to $100 a foot.

Q. Where were they $100 a foot, give me an instance?

2887 A. If I remember right, there was one acquired here about the time you speak of, between Old 12th and 13th Streets. There were several at $200 a foot.

Q. How long ago was that?

A. In about 1885, I think. Then there were one or two acquired up this side of Corlies Hook at the rate of $200 a foot.

Q. Was not the price generally paid to owners $600 a foot for lengths over 25 or 30 feet?

A. No, sir.

Q. You think not?

A. I am positive they were not.

Q. Are you familiar with the Langdon cases decided in 1892?

Mr. BURR: Langdon against the Mayor?

Mr. MATHEWSON: Yes, for bulkheads taken in 1877.

A. Yes, but that was in connection with where the city destroyed the bulkhead rights.

Q. Yes, that may be, but do you know what the result of that judgment was?

A. That was on the North River?

Q. 150 feet below Charles Street.

A. Yes, I know the case very well, and have read and used it very often.

Q. Was not the judgment $600 per foot for these bulkheads which were taken in 1877?

A. I don't know, Mr. Mathewson, what the judgments were.

Q. Is it not your recollection that that is substantially it?

A. No, I haven't any recollection of the judgment, so I am not really competent to answer that question.

Q. You remember those are the cases tried before Ex-President Cleveland?

A. Yes, sir. Mr. Boardman was counsel.

2888 Q. If the judgment in that case was established at $600 per foot for bulkheads taken in 1877, that would indicate a larger valuation for these bulkhead rights relatively than any you have testified to?

A. Based upon that it would.

Q. Has not the City acquired at practically that same rate considerable bulkhead property all the way up to Gansevoort Street?

A. On the North River?

Q. Yes.

A. They acquired a good deal of it there, yes, sir; but it is a different proposition entirely. That is in the shipping section where all the large steamships land, and if bulkhead was left there to the statutory rate of wharfage, which they would be confined to, they would not earn 2 per cent. on the basis of $100 per running foot, but they are valuable to steamships and that is the reason high prices were paid for them. But that in my opinion is no criterion for bulkheads situated as I have testified to.

Q. Has not the trend been up the North River, of improvement in bulkhead property?

A. It does not go beyond 34th Street, in my opinion. Take it from 34th Street up to 59th Street, it is gridironed with railroads, slaughter houses and live stock yards and things like that. It is no comparison with south of there where you are right in connection with large railroads on the Jersey Shore and the large wholesale houses and retail stores in the City of New York.

Q. Everything has been moving uptown. The Hudson River Day Line is now at 41st Street and the Sandy Hook Line?

A. Yes, they have a stopping place there.

Q. And the tendency of these shipping points and ferries is to extend uptown, is it not? It is the only way they can extend now, isn't that a fact?

A. It is the only way they can extend.

2889 Q. Are there any Transatlantic Lines now north as far as 34th Street?

A. Yes, the Italian Line is at 34th Street.

Q. Are you familiar with the sale made by Moore to the City of bulkhead rights as far back as 1892 between 23d and 24th Streets for about $500—for exactly $500?

A. It is a question of record.

Q. Well, I ask you if you are familiar with it?
A. No.
Q. You did not take that into consideration of course?
A. No. It is one of the best locations in the city, and in my opinion would have no bearing on this 44th Street property.
Q. Are you familiar with the judgments obtained by the owners between West 28th and 29th Streets, and between West 29th and 30th Streets, about December, 1893, for bulkhead rights at the rate of $500, less an estimated cost of construction of the bulkheads of $75 a foot, or $425 net?
A. No, sir.

Redirect examination by Mr. BURR:

Q. What do you mean by the statutory rate of wharfage?
A. Regulated by the state in reference to the amount that owners of bulkheads or open piers can charge for wharfage.
Q. That rate does not apply to these piers you were speaking of or bulkheads?
A. It does, yes; it would apply to them.
Q. I mean——
A. My values have not been based upon the statutory rate of wharfage, no.
Q. Your valuation was based, I suppose, upon the assumption that the Consolidated Gas Company owned these bulkhead properties and piers.
A. I assumed that they did; yes, sir. All my valuations are based on the assumption that they owned the bulkhead rights and the land under water.
Q. Now, as a basis for your valuation, have you a record of leases and sales which you have consulted?
A. I have. I have not really paid any attention to the
2890 sales, Mr. Burr, for the reason that in my opinion there has not been a sufficient number of sales there on the North River or East River to base my valuations on. I have considered leases which, under ordinary circumstances, in my opinion is a very good basis of values. I have all the city leases and also am familiar with most of the private leases.
Q. In arriving at your valuation as to the Tompkins Street water front, did you take into consideration any leases in that immediate neighborhood?
A. I did, and also property that I have for sale as well.
Q. That is the property of the Roach estate?
A. Yes.
Q. And you have those here with you, the record of such leases?
A. Yes, I have all the City leases here.
Q. I mean the leases that you consulted in making up your opinion as to the value of that property?
A. Yes, those are all here, both on the North River and East River.
Q. And the same applies to 41st Street and 42d Street, that is,

you have the record of the leases there upon which you have based your judgment?

A. Yes, sir.

Q. 44th and 45th Streets?

A. Yes, sir.

Q. And 45th and 46th Streets?

A. Yes, sir.

Q. And Pleasant Avenue and 110th and 111th Streets?

A. Yes, sir.

Q. So that if Mr. Mathewson should ask you upon what you based your valuations on you have your data here to inform him?

A. Yes, sir.

By Mr. MATHEWSON:

Q. Referring to the 22nd Street pier and your reply that you have largely based your answers as to valuations on rentals, are
2891 you familiar with the lease of that pier at West 22nd Street which was made at a public sale from May 1, 1886 to May 1, 1901 at $2,500 per annum?

A. What pier?

Q. Twenty-second Street pier. What was the rental paid for that? Wasn't it $2,500 a year?

A. North River, West 22nd Street, pier with water front 32,408 square feet, to Olcott, from May 1, 1902 to May 1, 1912, for $18,333.33.

Q. Wasn't that pier rented for a five-year term from May 1, 1886, to May 1, 1891 at $2,500 per annum as against the present rental of——

A. 1881? I haven't that lease away back there. It is no criterion. It is ten years ago.

Q. I am showing the increase in valuations in that section. And haven't you a record showing that from May, 1886 to May, 1891 it was $2,500 per annum and from May 1, 1891 to May, 1898, it jumped to $11,500 per annum or 360 per cent.?

A. I have taken the leases, sir, from 1900. I have given you all the advantages of the increase. There has been an increase.

Q. Have you any doubt that the figures I have given you as to those two years are correct?

A. I have not the slightest doubt that what you say is true.

Q. That is the information that I have at any rate.

A. Yes.

Q. And if that be so that would indicate an enormous increase as early as 1891.

A. There was a big increase in that section. That is the time when all those steamship companies commenced to go in the Chelsea section. There was a decided increase during those years.

Q. This term expired then, May, 1891, to May, 1898, at a rental of $11,500?

A. Yes.

Q. And you say the present rental is what?

A. This is the rental of a shedded pier.

2892 Q. How much?

A. A great big modern pier built by the city, $18,333.33. That is for an improved pier built by the city, shedded.

By Mr. BURR:

Q. That pier in 1890 was a very short pier?

A. A very short pier and, if I remember right, it was really a non-shedded pier. A non-shedded pier is restricted to the statutory rate of wharfage and it is a very different proposition than a shedded pier. A shedded pier can charge or make any arrangements it sees fit, just as you could for this building. A non-shedded pier is restricted to the statutory rate of wharfage.

By Mr. MATHEWSON:

Q. You can shed any pier?

A. No, you have to apply to the Dock Department, you have to get a permit.

Q. It appears by my memorandum that this pier was extended in 1892 by a resolution of the Board only twenty-seven feet on the north side and forty-five feet on the south side. But the rental was increased in 1892 from $11,500 to $12,519.26 per annum by reason of the increase.

A. This is a different kind of a pier entirely, Mr. Mathewson. This is a shedded pier, and I think it is a very low rental for a shedded pier.

Q. At that point?

A. At that point, I do. I think it is a very low rental for that.

By Mr. BURR:

Q. In arriving at a valuation in regard to such bulkhead property as this, what other circumstances do you consider besides the sales where you can find them, or leases. Do you take into consideration the character of the neighborhood and the approachability

2893 of the bulkhead by water and all that?

A. What it is best adapted for, yes, sir, always.

Q. Now, take the Tompkins Street water front. What leases in that neighborhood did you consider as the basis besides the other considerations you speak of in arriving at your valuations there?

A. Well, here is a lease right here at the foot of East 14th Street, Murray & Company, bulkhead, East 14th Street, 111 feet, leased for $525. The capitalization on a six per cent. basis would be $80 a foot.

By Mr. MATHEWSON:

Q. Bulkhead?

A. Yes, sir; 111 feet. Then knowing the conditions of the East River for the past twenty years, in regard to what the City gets and what I have got for sales through that section those are the very best elements of values I had to apply to 14th Street.

By Mr. BURR:

Q. Now, is there any other one you want to refer to in that neighborhood?

A. No, not necessarily. I do not think it is necessary.

Q. Well, take 41st and 42d Streets. What leases or sales in that neighborhood influenced your judgment in fixing the valuation?

A. You mean on the North River?

Q. On the North River.

A. Well, here is Pier 76 West 36th Street, 25,265 square feet, rented to the New York Central & Hudson River Railroad Company for $20,000 a year.

By Mr. MATHEWSON:

Q. When was that rented?

A. October 8th, 1904. Here is Pier 77, West 37th Street, 30,100 square feet, rented July 1st, 1901, for a term of twenty years.

2894 That is, in fact it is rented for thirty years, three renewals at $11,000 a year.

By Mr. BURR:

Q. What would that make it?

A. That would show really a valuation of the pier of about—a pier is a little different than a bulkhead as to capitalization. In other words, I capitalize a bulkhead at six per cent. where I capitalize a pier at eight per cent.

Q. That is on account of the higher valuation for the pier that Mr. Wheelock and Mr. Greene gave?

A. Yes. The difference is this: In a pier I allow one per cent. for a sinking fund, and two per cent. for maintenance of pier, collecting rents and such things. On a bulkhead you have only repairs which is not near as much in proportion to the value of the bulkhead as it is to the pier.

Mr. MATHEWSON: Capitalization at a higher rate would produce a lower capitalization rather than a higher one, as compared with Mr. Wheelock and Mr. Green.

The WITNESS: Well, I mean per square foot. I should say about $3.50 a square foot for pier rights, sir.

By Mr. BURR:

Q. You have given $6.00 here?

A. Yes, sir.

By Mr. MATHEWSON:

Q. $3.50 per square foot?

A. Yes, sir. That would show a valuation of $137,500 or nearly $4.00 a square foot for the pier rights including the structure.

Q. That would not be the bulkhead rights?

A. No, sir.

2895 Mr. BURR: He has figured pier rights at $6.00 and the lease figures out at $4.00.

The WITNESS: I have given you the benefit of that. Here is a

pier, 78 West 38th Street, 37,364 square feet, for the same length of time, at $11,000. That really is less, about $3.75 per square foot for pier rights.

Pier 74, foot of 39th Street, 200 feet south of the dump, with dumping privilege, 4,780 square feet, for $1,250 a year. That was on a ten-year lease.

Here is also Pier 79, foot of 39th Street, 150 feet north of pier, with ice privilege, &c., People's Co-operative Ice Company "Pleasure of the Board." That is $1,575. I did not take that into consideration, for my opinion where a pier is leased where the Board can revoke the lease at any time or break it at any time, it does not show the true value of the pier.

By Mr. BURR:

Q. Well, that will do for that part. Now, suppose you take and tell us by what method, under what consideration, you arrived at your valuation as to 44th and 45th Streets, the land under water?

A. The same. The land under water.

Q. Yes.

A. Well, in my opinion it could be leased for—could be capitalized on about the figures I have stated.

By Mr. MATHEWSON:

Q. About how much per foot was that?

A. I think about six cents per foot.

By Mr. BURR:

Q. Now, as to the Pleasant Avenue water front, 110th and
2896 111th Streets, how did you arrive at your valuation there per square foot?

A. Land under water?

Q. Yes.

A. In the same way, sir.

Q. And the bulkhead, 212 feet, at $100?

A. $100 a foot, in my opinion.

Q. You resorted to the same method pursued in the other cases you have now described?

A. I did, the very same, sir.

By Mr. MATHEWSON:

Q. From what record are you giving the details as to these leases?

A. The record of the Dock Department, which is a public document. Here is one of them here (indicating a bound book).

Q. You took no part personally in making any of these leases?

A. I did not, no, sir.

Q. Or any negotiations respecting them?

A. No, sir, I did not.

Q. You were never connected with the Dock Department, were you?

A. I am sorry to say that I was not; no, sir.

A recess is now declared till 2:10 P. M.

After Recess.

MARTIN McHALE resumes the stand.

Direct examination by Mr. BURR:

Q. What is the total assessment of all this real estate of the Consolidated Gas Company with regard to which you have been testifying including bulkheads, land under water, pier- and pier rights, etc., excepting Shadyside and excluding buildings as appears by the Exhibit in evidence here?

A. $10,348,513.

2897 Q. I ask you what is the assessed valuation?

A. $8,508,100.

By Mr. MATHEWSON:

Q. That excludes Shadyside and excludes all buildings, and excludes the 18th Street property taken for improvement?

A. Yes. You mean by the City?

Q. Yes.

A. It does, yes, sir. That is $8,508,100.

By Mr. BURR:

Q. And your testimony excludes those also?

A. Also.

Q. What is your total?

A. The total without improvements is $10,348,513.

Q. What percentage of that valuation is the assessed valuation?

A. 78½ per cent.

JOHN M. THOMPSON, recalled for further examination.

Direct examination by Mr. BURR:

Q. Have you made water front property in the City of New York a study, and if so, for how long?

A. Why in connection with my business for the last four or five years.

Q. Are you familiar with the sales and leases of pier and bulkhead properties in the City of New York on the North and East Rivers?

A. Yes, sir.

Q. Have you sold any bulkhead property?

A. Yes, sir.

Q. What property?

A. I sold North River and 49th Street, 117 by 686 feet; that is 686 feet of course being land under water; 117 feet of bulkhead by 686 feet under water.

2898 By Mr. MATHEWSON:

Q. Does that mean lineal feet?

A. Lineal feet; 686 feet on each side.

By Mr. BURR:

Q. When was that?

A. That was in June, 1903.

Q. Have you appraised water front property?

A. I would like to say in addition that I have sold a water front property in Astoria very near the gas works. That was about ten acres with riparian rights.

Q. Have you bought any bulkhead property, water front property?

A. No, sir.

Q. Have you appraised water front property for any parties?

A. Yes, sir.

Q. For whom?

A. I appraised the bulkhead property and the land under water at the foot of 9th and 10th Street-, for the estate of John Roach. I appraised the bulkhead at the foot of 28th and 29th Streets, East River—the other being the East River also—for the city of New York in the Bellevue Hospital proceedings. And I appraised the land under water—riparian rights I should say, on the Long Island side extending from White Avenue to Ditmars Avenue, in Astoria, for the East River Land Company, I think it is.

Q. I think you said something on your previous examination about the bulkhead property that you bought. Was it from Mary Ryan to Judge Dugro?

A. Yes, sir sale from Mary Ryan to Judge Dugro; 1903.

Q. What property was that?

A. Forty-ninth Street and North River property.

Q. What price did you receive for that?

A. $60,000.

Q. And at what figure was the bulkhead?

A. The bulkhead I sold at $100 a foot, making $11,700.

2899 Land under water at sixty cents a square foot, making $48,-297 or a total of $59,997, or within $3 of the $60,000.

Q. At sixty cents a square foot?

A. Yes, sir.

By Mr. MATHEWSON:

Q. Not six cents?

A. Sixty cents.

Q. I thought Mr. McHale had his at six?

A. No, sir. That was a rental value of six cents.

By Mr. BURR:

Q. Have you examined the water front property of the Consolidated Gas Company as the same appears on Exhibit 48 here?

A. Yes, sir.

Q. Including bulkhead, piers and land under water?

A. Yes, sir.

Q. Will you take up the first piece?

Mr. MATHEWSON: I wish to enter an objection against the competency of this witness. I do not think he has been qualified.

Objection overruled; exception.

A. Which is the first piece?

A. The Tompkins Street, East River, between 14th and 16th Street-, land under water, 450 by 70 feet, containing 30,318 square feet, at $2.00 per square foot, $60,636. Bulkhead, 446.4 feet, at $200 per lineal foot, $89,480; total, $150,116.

North River, between 41st and 42d Streets, bulkhead, 197½ feet, at $250 per lineal foot, $49,375.

Pier, $252,000, being 42,000 feet, at $6.00 a square foot, assuming that such pier can be built there. Total, $301,375.

North River, between 44th and 45th Streets, land under water, 14,756.10 square feet, at $2.00, $29,512.20.

2900 Between 45th and 46th Streets, 14,756.10 square feet, at $2.00, $29,512.20; or a total *of* land under water of $59,024.40.

The bulkhead between 44th and 45th Streets, 200.83 feet, at $200 a lineal foot, $40,166.

Between 45th and 46th Streets, 200.83 feet, at $200 a lineal foot, $40,166, or a total for the bulkhead of $80,332; and a grand total for the land under water and bulkhead of $139,356.40.

Pleasant Avenue, between 110th and 11th Streets, land under water, 9,400 square feet, at $1.00 per square foot, $9,400.

Bulkhead, 212 feet, at $100 per lineal foot, $21,200; total, $30,600.

Shadyside, about 611,710 square feet, or two hundred and forty-five city lots of upland, including the river front, at $1,000 per lot, $245,000.

Mr. MATHEWSON: As to the Shadyside I do not think any question has been asked of the witness and I would like to ask him one or two questions as to his Jersey experience.

Mr. BURR: Certainly.

By Mr. MATHEWSON:

Q. Have you ever bought and sold land in New Jersey?

A. Yes, sir, but nowheres near this property.

Mr. MATHEWSON: I move to strike out the testimony of the witness respecting his valuation as to Shadyside.

Mr. BURR: He will describe how he arrived at his valuation. He has not given the valuation yet.

Mr. MATHEWSON: Well, you have not qualified him. I do not have to anticipate.

2901 By Mr. BURR:

Q. Well, state how you arrived at your valuation of Shadyside?

A. My valuation of Shadyside was arrived at from the experience that I have had in the last eighteen months in water fronts all along the East River and Newtown Creek and Long Island City, and by comparison and deduction between properties over there and this property in Jersey, based upon my general experience as a real estate man.

Mr. MATHEWSON: I submit that that——

The MASTER: It is pretty remote. I will overrule the objection and let it in for what it is worth.
Exception.

Q. Now give us your valuation of Shadyside?
A. I gave that, sir.
Q. Now, that makes a total of bulkhead property——
A. It makes a total of bulkhead property including Shadyside of $866,447.40.
Mr. MATHEWSON: Wait a minute. Mr. McHale gave $871,447.40, and his figures in detail are identical with yours. Which is right?
The WITNESS: There is a mistake in Mr. McHale's addition, then.

By Mr. MATHEWSON:

Q. Your's is the Simon-pure correct total, is it?
A. It looks that way to me, sir.
Q. How much is it?
A. $866,447.40.
Q. Well, let me see. That includes then just the bulkhead, land under water, and pier rights to which you have testified at this session plus Shadyside?
A. Yes, sir.

2902 By Mr. BURR:

Q. That makes a grand total valuation of all the property that you have testified regarding of how much?
A. $10,486,356.15.

By Mr. MATHEWSON:

Q. Does this include the West Side property on the theory that the company owns 12th Avenue which it now occupies, or does it exclude 12th Avenue?
A. It excludes 12th Avenue.
Q. Well, if the company owns 12th Avenue it would add the difference which you——
A. I would like to suspend that question. I have not my book with me and really I do not remember what total I took on that when I made up my additions this morning. If you leave the question open I will answer it later. I really don't remember which total I took. I did it hurriedly.
Mr. BURR: Can I send around for your book?
The WITNESS: Yes, sir. It includes 12th Avenue. Mr. McHale states it includes 12th Avenue. He has evidently made a mistake in his figures.

By Mr. BURR:

Q. The total assessed valuation of all this property regarding which you have testified as appears by the evidence amounts to how much?
A. $8,508,100 without improvements and without Shadyside.

Q. And your valuation without Shadyside and without improvements amounts to how much?
A. $10,144,856.

Mr. MATHEWSON: Ought not we put in at the conclusion of
2903 Mr. McHale's testimony that this does not include Shadyside because his testimony was that the property he testified to——
Mr. BURR: He said excepting Shadyside.
Mr. MATHEWSON: Very good then, if it is clear.

Q. What percentage of your valuation is the assessed valuation?
A. 80.7.

Cross-examination by Mr. MATHEWSON:

Q. I see that your figures in every instance for bulkhead, water rights, pier properties, and Shadyside coincide to a cent with Mr. McHale's?
A. Yes, sir.
Q. I judge that these figures are the results of collaboration between you and Mr. McHale.
A. Yes, sir; Mr. McHale and I appraised all of those water fronts together, I think.
Q. And you agree to a cent on every piece?
A. Yes, sir.
Q. I understand this is your independent judgment, and Mr. McHale's is his independent judgment?
A. Yes, sir; at the same time in conjunction.
Q. In reference to your bulkhead property, East 14th and East 15th Streets which you have valued at $200 per foot, are you familiar with the condemnation proceedings of the 19th and 20th Streets bulkheads, in behalf of the city?
A. I know of them, yes, sir.
Q. Do you know that $300 is fixed in this proceeding as the value of the bulkhead?
A. I have so understood.
Q. Similarly are you aware that between 20th and 21st Streets, East River, the bulkhead was fixed in condemnation proceedings, at the instance of the City of New York, as $350 per foot?
A. I believe so, yes, sir.
2904 Q. Have you taken those into consideration in reaching your $200 per foot?
A. Yes, sir.
Q. Do you know what the difference in the character of the current is, or otherwise, affecting the value of bulkhead rights at 14th and 15th Streets as compared with 19th and 20th Streets, or 20th and 21st Streets?
A. I don't think there is a difference of $150 a foot, but I think there is a slight difference in favor of the 20th and 21st Streets on account of the width of the river there; it widens out.
Q. If these figures, $300 for 19th and 20th Streets, and $350 for 20th and 21st Streets be correct, relatively 14th and 15th Streets would be more than $200, wouldn't it?

A. I don't know that it would. Those were in condemnation proceedings.

Q. Just observe my question. I say assuming that to represent the true value at 19th and 20th Streets and 20th and 21st Streets, then the value at 14th Street relatively would be greater than $200?

A. On that assumption, yes, sir.

Q. Now as to land under water which you have estimated at $2 a square foot, are you aware of any land close to that which recently sold for $2 per square foot?

A. No, sir, I don't know of any recent sales of land under water except that one I testified to.

Q. In this Roach estate between 9th and 10th Streets, where you made an appraisal as you say, is the same Roach estate to which Mr. McHale has referred in his testimony, isn't it?

A. Yes, sir. Property I have for sale. At the figures Mr. McHale stated I appraised it and had it for sale.

Q. And Mr. McHale also stated he had it for sale?

A. Yes, sir; and have had it for sale for several years.

Q. Which was the Bellevue Hospital site?

A. 28th and 29th Streets, sir.

Q. And the East River?

A. Yes, sir.

2905 Q. Were bulkhead rights condemned there?

A. They have not been condemned yet. The testimony is in but the Commission has not finished the case yet.

Q. Turning now to the water front property on West 41st and 42d Street, you valued the bulkhead there at $250 per foot?

A. Yes, sir.

Q. And do you know of any bulkhead property that has sold in that vicinity recently at $250 per foot?

A. The only sale I can refer to is the one at 49th Street, sold three years ago at $100 a foot.

Q. That is the one from Ryan to Dugro?

A. Yes, sir.

Q. Was there any bulkhead built there at the time?

A. Yes, sir.

Q. Was it fully constructed across the frontage of one hundred and seventeen feet?

A. That I am not able to state now.

Q. What was the character of the upland at 49th Street?

A. In what way, sir?

Q. I mean was it precipitous?

A. Oh, no, sir.

Q. Was the New York Central Railway track between the upland and the dock property?

A. No, sir.

Q. You would not have to cross the railway to reach that?

A. No, sir.

Q. Does not the New York Central track run from 30th Street all the way up near the North River or through 11th Avenue?

A. It runs through 11th Avenue, but I do not think it is at 12th Avenue at that point.

Q. You do not think so?
A. No, I do not think so. I have not been there in three years and really do not recall.
Q. What Ryan was it that made this sale to Dugro?
A. Mary Ryan.
Q. Was it an estate or an individual?
2906 A. I have the contract here in my pocket, sir. I can tell you in a moment. It was an individual.
Q. Does she reside here in New York City?
A. I think so. She did at that time.
Q. Do you know where in New York City?
A. No, sir, but she is the mother of the late William M. Ryan, a real estate broker. I really don't know where she does reside. I did know at that time.
Q. This was to Judge Dugro?
A. Yes, sir.

By Mr. BURR:

Q. You have the original contract there?
A. I have the original contract here, yes, sir.

By Mr. MATHEWSON:

Q. Are you aware that the bulkhead at 58th and 59th Street sold for $650 per foot as Mr. Wheelock testified?
A. I have so understood.
Q. And are you aware that the bulkhead of 51st and 52d Streets and North River was fixed in condemnation proceedings at the instance of the City of New York as worth $500 per foot?
A. I think so, yes, sir.
Q. If those figures represent the actual value at 58th and 59th Streets and at 51st and 52d respectively, then relatively the value of 42d Street would be greater than $250, would it not, per foot?
A. If those figures represented the value, yes, sir.
Q. Is not the water front property at 42d Street worth more than the water front property at 51st and 52d Streets, or 58th and 59th Streets, per foot?
A. I think so, sir, but I know nothing of that sale for $650.
Q. No, I am asking relatively?
A. Relatively 42d Street is worth more.
Q. Assuming that 58th and 59th Streets was worth $650 per front foot, would not on that basis the bulkhead property at 42d
2907 Street be worth $750 per foot?
A. No, sir, I should say $700 a foot. I do not think there would be more than $50 a foot between the two.
Q. Are you familiar with the condemnation proceedings at 22d and 23d Streets, North River, respecting which Mr. Green testified, that as he understood it, $900 a foot had been allowed by the Commissioners in condemnation?
A. Yes, sir, $900 has not been allowed.
Q. The Commission has not reported yet?
A. No, sir.
Q. That is your information?

A. Yes, sir.

Q. If Mr. Green thought they had then you think Mr. Green is mistaken?

A. I think he is mistaken, yes, sir. I tried to verify that at lunch time but I was unable to do so.

Q. What rate per square foot have you estimated as the value of the land under water at 42d Street in estimating the pier property as worth $252,000?

A. I have not estimated the land under water there, except, I believe, the land under water could be utilized and that the owners would be allowed to build a pier sixty feet wide and seven hundred feet long, that would be extending from the bulkhead line to the pierhead line established by the Secretary of War in 1900.

Q. That means the use there for pier or for slips alongside pier of what area in square feet?

A. 42,000 square feet.

Q. And what would $252,000 represent per square foot?

A. $6.00 per square foot.

Q. Now, take 44th and 45th Streets and the North River, do you mean to say that the land under water at 44th and 45th Streets and North River would be worth only $2.00 per square foot if the computation of $6.00 per square foot for 42d Street is correct?

2908 A. Yes, sir, because that is a different proposition. One is land under water and the other is a right to build a pier.

Q. Well, the right to build a pier really involves the use of land under water.

A. Yes, sir.

Q. Or rather of the surface above the land under water, either for a pier or for slips.

A. Yes, sir.

Q. Is there any reason why at 44th Street the company should not pursue either course which it sees fit in the use of its land under water?

A. No, sir; but they have never availed themselves of their pierhead rights there, and they have done so down at 41st and 42d Streets.

Q. But the land under water or the surface above the land under water is possible of utilization in the same manner as at 42d Street if the company chooses to do so, isn't it?

A. Yes, sir.

Q. And in that event wouldn't it be worth more than two dollars a square foot, if it is worth $6.00 at 42d Street?

A. Why, yes, sir; if you have the right to build the pier out there, and this land under water is available for pier purposes, it would be, yes, sir.

Q. What would be the difference between 42d Street and this in the value of the land under water on that assumption?

A. Well, on that assumption I don't think it would make any difference, possibly fifty cents a foot.

Q. That is $5.50 or $6 at 45th and 44th Streets?

A. Yes, sir. I would like to make some explanation. I have

only taken these measurements from the testimony. As I understand it, you have only got seventy feet of land under water there in depth and you could not build a pier out there. The testimony shows you have seventy by two hundred feet ten inches, and on that assumption you could not build a pier.

Q. That is at the bulkhead line, is it not?

A. The land under water is testified by your expert from
2909 which I have taken these figures to be seventy by two hundred feet ten inches.

Q. Aren't you aware there are four hundred and eighty feet more of water out to the line of 13th Avenue?

A. I was not called on to testify to that. I only took what your experts testified to. If you wish me to testify to that, that would be a separate proposition.

Q. Assuming that to be so, then the value of the land under water would be available to 42d Street as you testified a moment ago?

A. Assuming that to be so, sir, I would have to re-appraise the property.

Q. Do you know of any actual sales of land under water recently in that vicinity at $2?

A. Three years ago the Mary Ryan sale at eighty cents a square foot.

Q. You have already testified to that.

A. No, others, except, of course, that East River land that I have for sale at less than that.

Q. That is East River. This is North River?

A. Yes, sir.

Q. Referring now to the bulkhead property at Pleasant Avenue and 110th and 111th Streets, did you hear Mr. McHale's testimony that he also appraised the land under water at one dollar per square foot?

A. Yes, sir.

Q. Do you concur with him that if an easement to put a tunnel two hundred feet under the East River was worth fifty cents or forty cents per square foot that the value of land inside the bulkhead line at 110th Street in fee would be only one dollar per foot?

A. I never testified to a tunnel under the river, and it would be impossible for me to answer that question.

Q. I know you did not.

A. I could not answer the question. I have no idea what
2910 a tunnel under the river is worth. I have no idea what the easement is worth.

Q. And if the easement be worth that amount you could not form any opinion as to whether the bulkhead land under water would be worth twice as much?

A. I am positive that the land under water at that bulkhead is worth one dollar a square foot. As to the easement I don't know.

Q. Take the bulkhead which you have appraised at $100 per lineal foot?

A. Yes, sir.

Q. Are you familiar with the fact that a lease was made in 1905

of one hundred and eighty-seven feet of bulkhead between 109th and 110th Streets at $1,800 a year? It was testified to by Mr. Wheelock at page 1142 of the record.

A. I am not aware of that, sir.

Q. Assuming that the lease was made as Mr. Wheelock testified, at $1,800 a year, Mr. McHale has figured and testified that that would mean a value of the bulkhead at about $160 per lineal foot, capitalizing the rental at 6 per cent. Is that your computation, or would you accept his?

A. I would first want to know the conditions of that lease.

Q. No, I say assuming it.

A. Oh, assuming it. Yes, sir, that is about right.

Q. Well, property or bulkhead rights between 110th and 111th Streets would not be less valuable than between 109th and 110th, would they?

A. No, sir.

Q. So that if bulkhead property is worth $160 between 109th and 110th Streets, it would be worth as much between 110th and 111th Streets?

A. On that assumption, yes, sir.

Q. Are you also familiar with the policy of the Dock Department of the city in acquiring water rights since 1884 down to date? Do you know that has been their policy to acquire them?

A. Yes, sir.

2911 Q. And are you not also familiar with the fact that they paid generally from $450 to $600 per foot even as far back as the '80's, to acquire water front property?

A. No, sir, I don't think that the minimum figure was as high as that.

Q. Didn't they pay from $450 to $600 a foot generally for short pieces of twenty-five feet or thereabouts under one ownership and from $500 to $600 per foot for greater lengths?

A. That is possible, sir. I would not like to dispute it, but I think it is rather high.

Q. Well, you know a great deal of water front was acquired as high as $600 per foot for lengths of over twenty-five or thirty feet from your study?

A. Yes, sir.

Mr. BURR: Mr. McHale has testified that was in the shipping section.

Q. And under legal proceedings the city acquired various water front property at $500 per foot or more?

A. Well, just as Mr. Burr said, it was in the shipping district.

Q. Well, that may be, that is another thing. I ask you whether that is not the fact?

A. Yes, sir, that is a fact.

Q. And are you familiar with the Langdon cases where a rate of $600 per foot for one hundred and fifty feet between King and West Houston Streets was established and for two hundred feet between West Houston and Clarkson Streets for bulkheads taken as far back as 1877?

A. I know the cases; yes, sir.
Q. That is correct, isn't it, as to the figure?
A. I think it is.
Q. Are you aware that in 1892 the City purchased bulkhead property between 20th and 21st Streets from the General Theological Seminary for $300 a foot, fourteen years ago?
2912 A. Yes, sir, I believe so. What streets was that between?
Q. Between West 20th and 21st Streets?
A. Yes, sir.

Mr. MATHEWSON: I wish to say, that the offer was accepted by the city, but I am not sure whether the transaction was finally carried out. I think the property was subsequently condemned.
The WITNESS: I think it was condemned.
Mr. MATHEWSON: I think that arrangement was rescinded for some reason.

Q. Are you familiar with the fact that about December, 1903, the City acquired bulkhead rights between 28th and 30th Streets and North River at $500 a foot, less a small estimated figure for the construction of the bulkhead?
A. No, sir; I don't recall that one.
Q. It is true, is it not, that water front property, dock property on the deep water of the North River has been continually and rapidly advancing in value within the last fifteen or twenty years?
A. South of 23d Street, a great deal; north of 23d Street, to a less degree.
Q. But it has been advancing all along the North River water front, has it not?
A. Yes, sir.
Q. Now, it is in evidence that 924 square feet of land under water at West 40th Street was leased in 1877 and renewed in 1898 at $231 per annum, which would be at the rate of 25 cents per square foot. Have you not known of land under water being leased along the North River as high as 25 cents per square foot?
A. That is the case with 924 feet, yes, sir; but not for a large body of it.
Q. Is not a large body of bulkhead property for many uses
2913 more valuable than a small body of bulkhead property?
A. You are speaking of land under water?
Q. Yes, and for land under water the same thing.
A. It would depend entirely upon the locality, whether they could use it or not.
Q. Quite true, but if you have enough land under water so you can build a pier with slips on either side for boats is not that more valuable than if you had a smaller amount of land which would not permit either by the width or length of it of the building of a pier with such slips?
A. I doubt very much whether it would be worth more per foot than 25 cents a foot, 924 feet, the City could hardly have leased it for less.
Q. Why was the City paying more for bulkhead rights where the bulkheads were over 25 feet long than for shorter lengths?

A. We were speaking of land under water and not bulkheads.

Q. Yes, and now we are speaking of bulkheads. Does not the same rule apply?

A. No, sir; I do not think it applies. I do not think you could lease the Ryan property of 80,000 feet for 25 cents a foot, and while you might 924 feet, I don't think you could lease 80,000 feet at that rate.

Q. What is the length of the Ryan property?

A. 117 feet.

Q. Do you consider that an excessive length for a bulkhead, to acquire a maximum rental per square foot?

A. No.

Q. Well, if you pay 25 cents per square foot as the rental of land under water at 40th Street, the rental value of land under water at 45th Street would not be appreciably less, would it?

A. Not on that assumption, no, sir.

Q. And if you assumed a rental value of 25 cents per square foot, can you tell me what value that would give for the land
2914 under water at 44th to 46th Streets capitalized at the rate you have taken, 6 per cent.?

A. I have taken 5 per cent. for land under water. There are no expenses for land under water.

Q. Well, 5 per cent.?

A. On that assumption it would be $12,500.

Q. For the entire land under water?

A. $12,500 per lot.

Q. How much would that be for the entire amount of land under water?

A. 41st to 42d Street?

Q. No, 44th to 46th Street. It would be about $150,000, wouldn't it?

A. On that assumption it would be $147,560.

Q. Is it not a fact that bulkhead property and water right property on the North River and on the East River in the City of New York is closely held and is difficult to acquire?

A. I don't know. I have in addition to the piece on the East River, 9th and 10th Streets, I have another piece from John C. Sheehan, I think it is 114th to 115th Street.

Q. The East River?

A. Yes, sir; and then I have a piece that I am negotiating for or was in negotiation for recently with Simonson, the lumber man in that neighborhood, 108th, 109th, 110th Streets. Of course there are not very many; there are not very many on the Island.

Q. The supply that can be acquired is limited?

A. No question about that.

Q. And it is becoming more limited relative to the business of the port all the time?

A. Yes, sir.

Redirect examination by Mr. BURR:

Q. You and Mr. McHale have the same theory as to value therefore your figures are practically identical.

A. Yes, sir; we figured on the same basis of capitalization, therefore our results must be the same.

2915 Q. And in giving these figures, you have assumed that the Consolidated Gas Company owns the bulkhead and piers?

A. Yes, sir.

Mr. BURR: That is all the evidence I have to-day.

Mr. MATHEWSON: In regard to this motion, I have read the request spread upon the record yesterday by Mr. Burr and Mr. Kirby, relating to an examination of the Company's plants and books. The plant is being examined so that that is disposed of.

The first request is that the defendant be permitted to examine all documents and books relating to or upon which Exhibit 94 is based. There is no objection to that.

The MASTER: That is being done, as I understand.

Mr. MATHEWSON: That is being done, and we supposed that we had given consent to that weeks ago, and that it had been done. Second, to examine all books and documents relating to or upon which is based the cost of gas for some particular year, between the years 1900 and 1905. We cannot concede to that. We consider that the cost of production of gas now is the criterion, and labor and material and other things are distinctly different in cost in previous years.

Third, that the accountants shall be permitted to examine all the books and documents relating to or upon which the actual structural cost is based in 1884, or subsequent thereto, and also all of the books of the six companies which in 1884 joined together as the Consolidated Gas Company. I had instructed the officers of the Company to permit the examination of books and documents

2916 of 1905, covering all vouchers so far as desired, relating to the cost of operation as shown in Exhibit 94, and the construction account and repairs and renewals account, which I think cover all or substantially all of the vouchers for 1905.

So far as relates to the period prior to 1905, the complainant put in an exhibit showing the repairs and renewals for the period from 1884 to 1905 and there is no objection to the defendants examining the books and vouchers in respect to those renewals and repairs and at the same time in relation to construction account, which would show additions to construction since 1884, and also repairs and renewels since 1884. That would not apply to vouchers in relation to the operating cost of gas in each year since 1884, because he has put in no such exhibit and an investigation of previous years would be valueless in any event.

I think that covers all the requests of the defendants and covers them substantially except for the examination of some other year from 1900 to 1905 besides the year 1905.

The MASTER: Does that cover the question of the examination of the books of the six companies which united in 1884?

Mr. MATHEWSON: Yes, if counsel desire to examine them. I think the Master will see at once, if we went into the question of operating cost of gas for another year than 1905, considering the time it has taken us to cover that year, it would be out of the ques-

tion to finish in a reasonable time, aside from the relevancy of the question.

I want to say that the vouchers for the year 1905 alone, which we have said we will submit to the defendants if they desire, would probably make a solid stack comprised in drawers three feet
2917 deep and eight or ten feet high covering the whole end of this room, and if the defendants were to examine every one of these vouchers, I do not believe they could do it, and do that alone, in the time which is left them to put in their case here. And I call their attention to this because it is an utter impossibility to go over all these vouchers for 1905 and upon these construction, renewal and repair accounts back to 1884, in any time at the disposition of the defendants, and I suggest that they must make their choice as to which and where they desire to test. I call their attention to it now, so there may be no mistake or misunderstanding about that.

The MASTER: That seems to cover everything except this question of the examination of some particular year between 1900 and 1905.

Mr. BURR: In the absence of Mr. Kirby, I call the Master's attention to what Mr. Kirby said:

"The State, specifically, at this time, desires permission to examine all books and documents of any kind, going to make up the statements set forth in any of the exhibits of the complainant and especially in reference to Exhibit 94 and the exhibit relating to repairs and renewals from 1884 to the present."

The MASTER: Well, Mr. Mathewson's statement here covers the only two matters as to which Mr. Kirby has made himself sufficiently explicit to comply with the understanding we have of this matter, that is, Exhibit 94 and the exhibit relating to renewals and repairs from 1884 to the present. I think if he wants anything more specific than that, he will have to set it forth. He says, "All books and documents of any kind going to make up the statements set forth
2918 in any of the exhibits of the complainant." That is a pretty broad order. Some of them have been made the subject of investigation and some of them Mr. Mathewson will no doubt concede and some of them he may object to; and until Mr. Kirby makes it a little more clear what he is driving at, I think we will have to suspend decision on that.

Mr. BURR: I wanted to call the Master's attention to the memorandum of Judge Lacombe on pages 2742 and 2743 of the record, in which he speaks of having come to the City to pass upon an application for the examination of the books in the latter part of August. That I wish to be understood was not an appliaction made by the City. It was an application made by the State for a modification of the injunction made by Judge Lacombe so that the State Commission of Gas and Electricity might have the power under the law bringing them into existence to call for the production of the Consolidated Gas Company's books, but inasmuch as that very law itself is called into question here as being unconstitutional, I advised that in my judgment that could not bring us very much relief, and as I understood, Senator Page agreed with that view and the motion

was then withdrawn. But I did not wish it to appear that I was party to a motion which was not acted upon at that time.

Mr. MATHEWSON: I want to say, Mr. Master and Mr. Burr, that in conceding the examination of the construction account and the renewals and repairs account back to 1884, so far as you may decide to test it, I want it distinctly understood that the complainant's position is that the present property that we have and the present value of the property that we have is the capital upon which we are
2919 entitled to return and not any original cost; and in making this concession I do not wish to be taken as conceding any other theory.

Mr. BURR: I do not understand the concession to mean that. I will move now before the Master that he make a direction that the complainant permit the examination to the full extent for which it has been applied by us.

Mr. MATHEWSON: I do not think that that is quite appropriate now, considering that we have conceded that much.

Mr. BURR: You have refused, for instance, a comparison with the other years.

The MASTER: I will pass on that. As I understand, that is the only thing that is left that is not covered by Mr. Mathewson's concession, and if there is any trouble in getting what you want, you may bring it to my attention.

Now, with regard to that second branch of your motion, that is, taking out some other year between 1900 and 1905, I do not see, as at present advised, what the materiality or relevancy or benefit of that will be. I can see, possibly, that it might gratify an expert, who was getting up a theory covering his views of this matter, to have some other year taken out for the purpose of comparison or argument, if the results happened to show his way; but unless it is made a little more clear to me exactly how deductions based on the business of that proposed year between 1900 and 1905 are material, I should be inclined to think Mr. Mathewson's objections was well taken.

Mr. BURR: Then I will reserve the right to make further application as the examination develops.

2920 The MASTER: Yes, and if you can amplify that at some future time and show me that it is necessary for the proper presentation of your case to have some such investigation as that, you are entirely at liberty to make the application; but as now advised, I think you are getting all that is necessary.

At 3.40 P. M. adjourned to October 15th, 1906, at 11 o'clock A. M.

Last Exhibits:

Complainant's 256,
State's W,
City's 54.

2921 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *October* 15, 1906.

Met pursuant to adjournment.

Present, The Master, Mr. Garver, Mr. Page, Mr. Burr and Mr. Kirby.

2922 Mr. BURR: Mr. Master, pursuant to the right reserved by me and allowed by the Master, I make the following additional objections and motions to strike out, on behalf of the City of New York, to the Exhibits introduced in behalf of the Complainant and numbered 101 to 215, both inclusive.

Generally, the objections are as follows and I will state them then more in detail.

The City objects to the reception of papers offered by the Complainant as grants or franchises under which it claims its rights to operate in the streets of New York on the ground:

First, that the said papers are not legally executed or properly acknowledged.

Second, that there is no proof that the assignments by the companies were authorized by the Board of Directors of such companies or by the City authorities.

Third, such assignments were made without the consent of the City and contrary to law.

Fourth, the time fixed to operate under the alleged franchises or permits has expired.

Fifth, the terms, conditions and requirements under which such alleged franchises and permits were obtained have not been complied with.

Sixth, such franchises or the valuation placed upon them should not be charged against the cost of the manufacture and distribution of gas.

Seventh, there is no proof of the identity of the persons signing the assignment under Chapter 944 of the Laws of 1871.

Eighth, the valuation arbitrarily fixed on the alleged franchises of the constituent companies at the time of the consolidation in 1884 is not binding on this Court in 1905, and should not be considered as a factor to add in any manner or in the slightest degree to the cost charged against the manufacture and distribution of gas
2923 in New York, against the City of New York or any other consumer.

Ninth, that said assignments are mutilated and interlined without the same being noted and the names of assignees and assignors have in many instances been changed.

Tenth, there is no proof that the companies to which said alleged franchises or permits were granted, ever operated under them or ever laid mains in the streets under said alleged franchises, or if they did, it does not appear in what territory or to what extent, and it does not appear what rights in the particular streets of the City are claimed under the particular franchises offered in evidence.

Some of the objections and motions go to the merits of this controversy, and the Master is urged to give them mature consideration and not to overrule them as having been made simply for the record. Others may seem technical. They go to the method of proof. They are nevertheless important.

The City's position is that certain extraordinary rights and privileges, some of which were granted without its consent, are now sought to be proved against it, and if proved here may hereafter become *res adjudicata,* although this is not conceded. The genuineness and validity of such hostile rights should be proved in the strictest manner known to the law of evidence, and should not be held to prove themselves without the production of any witness. The City, in taking this position, does not seek to embarrass the Complainant unduly. Many of the witnesses to the transactions mentioned in the Exhibits are still living and available, and the City is informed that many of them have actually been interviewed on behalf of the Complainant. All such witnesses should be produced by the Complainant and the City should be allowed the
2924 fullest opportunity for cross-examination.

Exhibit 188 (page 648) purporting to be an agreement between William Foster, Jr., and others and the Union Gas Light Company under date of February 25th, 1874, and in and by which the parties of the first part attempted and purported to delegate to the Union Gas Light Company all the power of the parties of the first part as the Executive Committee under the Act of 1871, to manage and control the gas making business, the right to carry on which was conferred upon such Executive Committee by said Act, is objected to on the ground that said Act of 1871, Chapter 944, was an Act to authorize certain *individuals* there in named and their assigns, acting through certain of their number, not less than seven, composing an Executive Committee, to carry on a gas making business and to use certain portions of the City of New York for that purpose, the intention of the Act (assuming that it was not a fraud upon the City of New York) being that the actual active management and control of the business should be in the hands of said Executive Committee and not to be delegated by them to any *corporation,* and that said Committee might thus be free from the restrictions and limitations placed upon gas corporations by the general statutes of the State of New York.

In the case of individuals conducting a gas making business without a State franchise, there would be no right to use the streets of the City of New York for the purposes of distribution even with the consent of the municipal authorities. Instead of carrying out the purposes of the Act as above set forth and clearly appearing upon the face of the Act, it appears from the exhibits offered in evidence that William M. Tweed and his associates secured the individual interests

of certain of the grantees (misnamed incorporators) under
2925 the Act, and instead of organizing and conducting a gas making business, proceeded to sell (at a profit, presumably) the interests thus acquired.

Section 1 of the Act of 1871, page 488 of Exhibits says: "And also the said persons and their assigns shall so conduct *their* manufacture * * * of gas * * * The rights and privileges hereby granted are exclusive; but shall not be construed to affect or impair any exclusive rights or privileges, if any, vested in any *incorporated company* in said city."

The Act does not provide for incorporation or create a corporation. Throughout it refers to *individuals*.

No corporation became an "assign" of any of the grantees, every assignment of any individual interest being to another individual. No corporation ever received an interest in the grant except as the agent of the Executive Committee. The word "assigns" is used in the Act only for the purpose of enabling the individual grantees to have perpetual succession.

All of the exhibits relating to the said statute, Chapter 944 of the Laws of 1871 and the Act itself, Exhibits 119 and 215, both inclusive, are objected to on the ground that it appears from those exhibits that the legal title to said State grant, if the same still exists to-day, is not vested to-day in the complainant, but in the last assignees of the individual interests of the grantees named in the Act, namely: Oswald Ottendorfer, Charles G. Francklyn, Philip Allen, Henry Day, Harrison E. Gawtry, S. C. Thompson and Peter Gardner, the assignments to whom are all dated in March, 1880, there being no proof of any transfer to the complainant or any one else of their individual interest, and the assignments to them purporting to transfer to them absolutely the rights and interests of all the original grantees. (Exhibits 208 to 214, both inclusive.)

2926 The MASTER: You mean there is no proof of assignment by Ottendorfer and associates to that gas company?

Mr. BURR: Yes. The only interests under Chapter 944 of the Laws of 1871 passing to the complainant in this action as shown by the exhibits offered in evidence, consists of such interests as the Complainant may have received from the Knickerbocker Gas-light Co. under the consolidation agreement of November 11, 1884, and as to this, objection is here made as follows:

First. The Act of 1884, under the authority of which said agreement was made, conferred no right on the Knickerbocker Gas-light Co. to transfer to the Complainant any *municipal* franchise which it might then have possessed or controlled.

Second. No *municipal* franchise held or controlled by a gas lighting company, organized either under the Gas Company's Act of 1848 or the General Manufacturing Companies' Act of 1848 was assignable in 1884 without express sanction of the Legislature, and at that time no such sanction had been given by the Legislature.

Third. The only interest in the said State grant of 1871, Chapter 944, held or controlled by the Knickerbocker Gaslight Company was a right to exercise said grant as the agent and attorney of the Executive Committee under the said Act (see Exhibit 198, page

678), and such right was never acquired by the Knickerbocker Gaslight Company for the reason that the Executive Committee, even if legally chosen, had, as above stated, no power to delegate such right to the Knickerbocker Company, and even if such right had been delegated to the Knickerbocker Company, that company could not (under the terms of Exhibit 198, page 678) delegate the same to the Complainant without the express consent of Messrs.
2927 Ottendorfer, Francklyn, Allen, Day, Gawtry, Thompson and Gardner, and there is no proof in this case that those gentlemen ever consented to such delegation by the Knickerbocker Company to the Consolidated Gas Company.

Objection is made to all of said Exhibits from 101 to 215, both inclusive, on the ground that they purport to show, if anything, certain rights or privileges at one time claimed to be owned by the companies which consolidated in November, 1884, to form the Consolidated Gas Company, and all of such exhibits tend to prove no municipal franchise to-day owned by the Consolidated Gas Company, unless they may be held to have been legally and properly transferred to that Company by the consolidation agreement of November 11, 1884, and the Act of 1884 pursuant to which said agreement was made, conferred no right upon any of the constituent companies to transfer or delegate to the Consolidated Gas Company any municipal franchise. And further, that on November 11, 1884, when the Complainant claims to have received the municipal franchises, if any, of the said constituent companies, such franchises were not by law assignable, without the express authority of the Legislature, and no such authority had then been given by general act or otherwise.

The meaning of the word "franchise" as used in said Act of 1884 and in the general Acts relative to the consolidation of corporations has reference merely to the franchise to be a corporation received from the State and does not include any consent by any municipality to the use of any of the streets of that municipality. The franchises, if any, of the constituent companies were granted to them for the avowed purpose of creating healthy competition, and from this point of view ceased to exist upon the consolidation of the constituent companies which destroyed the very purpose of creating them.

2928 The MASTER: What would be the object of passing the Act of 1884 if the companies could not consolidate under it with their franchise?

Mr. BURR: They should have obtained the consent of the local authorities, we contend.

All of said Exhibits No. 101 to 215, both inclusive, are further objected to on the ground, that even if they do tend to establish in the Complainant any municipal franchises as against the City of New York, the said Exhibits are immaterial and irrelevant, as such franchises, if any, cannot be taken in this proceeding as part of the property used in the gas making business upon the value of which the Complainant is entitled to a return as against the consumers' supplied by the Complainant.

Objection is further made to Exhibit 101, (Page 421) purporting

to be a grant of certain rights to the New York Gas-light Company on the ground that said grant was made in the year 1823 for the term of only thirty years and has therefore by its express terms expired.

Objection is further made to Exhibit 102 (page 427), purporting to be a grant of certain rights to the Manhattan Gas-light Company, on the ground that the said Exhibit is dated in the year 1848 and was for the term of only thirty years and has by its express terms expired.

Objection is further made to Exhibit 103, (page 434) purporting to be a grant of certain rights to the Manhattan Gas-light Company, on the ground that such grants purports to have been made in the year 1833 and by its express terms expired on May 12, 1853.

Objection is further made to Exhibit 104, (page 439) purporting to show grants of certain rights to the Harlem Gas-light Company, on the ground that said grants do not tend to show any rights in the Complainant. Even if a gas corporation in 1884 had the
2929 power to assign its municipal franchises, and even if the Harlem Gas-light Company did attempt to assign to the Consolidated Gas Company any rights it may have possessed under the grants shown in Exhibit 104, such assignment passed nothing to the Consolidated Gas Company because the said grants were not to the Harlem Gas-light Company and its assigns, but were intended to be used only by that Company. A municipal franchise to a particular gas corporation made prior to 1884 (even if assignable) was similar to a deed of real estate under the common law made to A. B., but not to his heirs and assigns forever. A. B., under such a deed in the absence of statute, received merely a life interest, and he could convey, if anything, only his life interest. If this analogy be correct, and even assuming that the Harlem Gas-light Company received more than a privilege to be used only by itself, and that it did assign what it had to the Consolidated Company in 1884, nothing passed to the Consolidated Gas Company beyond the mere right to exercise the privileges shown by Exhibit 104 during the corporate existence of the Harlem Gas-light Company, which term of existence has already expired.

Objection is further made to Exhibit 105 (page 444), purporting to be a grant or permission to the Metropolitan Gaslight Company and not to its assigns, on the same grounds specified in the objections to the grant to the Harlem Gaslight Company, and on the further ground that said permission was for the period of only 30 years, and having been granted in 1858 has already expired.

Objection is further made to Exhibit 118 (page 480), purporting to be a grant or permission to the Municipal Gaslight Company, on the ground that it expressly appears, in paragraph 9 thereof,
2930 on page 484 of Exhibits, that said permission should not be assigned or transferred without the previous consent of the Common Council, and there is no evidence in this case to show that such consent to the assignment of said permission to the Consolidated Gas Company, assuming that it was so assigned, was ever given; and on the further ground that said permission was in its inception invalid as beyond the authority of the municipal officials

attempting to make the same, and the ordinance of August 18, 1884 (even if in evidence), in which the Board of Aldermen of the former City of New York undertook to confirm the said permission, was void under Section 86, Subdivision 5, of the Consolidated Act of 1882, then amended, and the attempted confirmation of said permission by the Legislature in Chapter 530 of the Laws of 1885, amending Subdivision 5 of Section 86, was unconstitutional in failing to express in its title that said amendatory act was designed to effect such confirmation.

Objection is also made to Exhibit 120 (page 490), purporting to be an affidavit of William Foster, Jr., made to verify and authenticate copies of affidavits of the publication of certain notices, on the following grounds:

First, the paper has no probative force of the facts therein stated, there being no proof that William Foster, Jr., is dead, or as to the circumstances under which the said affidavit was made and delivered, or that such facts (if they be facts) cannot otherwise be proved.

Second, the paper is not an affidavit, having been taken in New York County by a Notary Public for Kings County.

Third, the said paper in so far as it states that Hugh Smith was not eligible to serve on the Executive Committee as assignee of any of the original grantees under the Act of 1871 contradicts Exhibits 160 (page 585) and 144 (page 546), which tend to show
2931 that Hugh Smith did receive assignments of certain of the interests of certain grantees under said Act, and also Exhibit 180 (page 628), which tends to show that Hugh Smith was regarded as a member of the Executive Committee and resigned as such member.

Fourth, the exhibit is not admissible in the absence of proof that the original affidavits of publication cannot be produced at the present time or that proof of the publication of the notices cannot be obtained from the files of the Daily Transcript and the New York News.

Fifth, the affidavit, even assuming that it is proof of the publication of the notices in question under the Act of 1871, is inadmissible in the absence of proof tending to show that the meeting was actually held as stated in the notice, and that the Executive Committee was duly chosen at such meeting as required by the Act.

Exhibit 169 (page 606) offered as an assignment by Peter H. E. Baxter to Henry W. Genet is objected to as immaterial and irrelevant in the absence of proof that Peter H. E. Baxter therein described was the Peter H. E. Baxter, Junior, mentioned as one of the grantees named in the Act of 1871, the mere statement to that effect in the exhibit itself not being sufficient, as the admissibility of the entire exhibit is the question before the Master, and it must be proved to be connected with the Act of 1871 by evidence outside of the Exhibit itself.

Exhibit 196 (page 672) offered in evidence as a request or consent of the Union Gaslight Company and purporting to have been executed on December 11, 1876, is objected to for the reason that upon said date the said Union Gaslight Company was without
2932 power to make such instrument, a receiver of all the property

and assets of said company having been appointed in 1875 as shown by Exhibit 112, page 462, of Exhibits.

Exhibit 201 (page 688) is objected to on the ground that, although it purports to be a general release from Walter Osborn and others as receivers of the Townsend Savings Bank of New Haven, it is signed by Walter Osborn and the others, not as receivers, but as individuals, and bears no notarial certificate of acknowledgment. Further there is no proof of the appointment or qualification of such receivers or that they were ever given authority to make and deliver such release. There is no proof that if they were receivers in Connecticut ancillary authority was ever given to them in this jurisdiction.

There is a total lack of proof of the execution, delivery and authenticity of Exhibit number 103 (page 434) purporting to be a grant to the Manhattan Gas-light Company; number 109 (page 454) purporting to be an assignment from the Anthracite Gas Lighting and Heating Company to the Citizens Mutual Gas Company; Number 124 (page 499) purporting to be an assignment from Isaac P. Martin to C. S. Bushnell and others, numbers 179 (page 627) 180 (page 628) 195 (page 671), 200, (page 687) and 215 (page 721), purporting to be resignations of various persons describing themselves as in the case of each said exhibit, as an Executive Committee, number 201 (page 688) purporting to be a general release from Walter Osborne and others to the Knickerbocker Gas Light Company. None of said Exhibits bear any acknowledgment before a notary public or other duly authorized official and there is no proof of any description as to the execution, delivery or authenticity of the said documents, or any of them.

2933 Similiar objection is made to numbers 115 (page 472) and 197 (page 675) purporting to be assignments executed by Charles E. Appleby, Receiver of the Union Gas Light Company, to Clark Bell. The notarial acknowledgments affixed to said exhibits are acknowledgments by said Appleby individually and not by him as such Receiver.

There is a total absence of proof of the execution, delivery and authenticity of Exhibit number 145 (page 547) purporting to be an assignment by James M. Sweeney to C. S. Bushnell. Said assignment purports to be executed in behalf of James M. Sweeny by John J. Bradley, his attorney in fact, and there is no proof of the authority of said Bradley to act as such attorney in fact, the document annexed to said exhibit and purporting to be a copy of a power of attorney from James M. Sweeny to John J. Bradley not having been proven to be a correct copy of said power of attorney, and there being no proof that said power of attorney ever existed or was duly executed. The mere certificate of Henry Parsons attached to said power of attorney is not proof of any of the facts in said certificate purporting to be stated. Further, the alleged copy is not a complete copy. There may have been provisions in it which would negative any power of Bradley to sign said exhibit in behalf of James M. Sweeny.

Similar objection is made to Exhibit 156, (page 574) purporting to be an assignment from Henry A. Smith to C. S. Bushnell and

others. The said assignment purports to have been executed in the name of Henry A. Smith by Bernard Smythe, his attorney in fact, and the authority of said Smythe to act as such attorney in fact has not been proven, the document attached to said Exhibit No. 156 and purporting to be a copy of power of attorney from Henry A.
2934 Smith to Bernard Smythe not having been proven by any evidence to be a true copy of said power of attorney, and the existence and execution of the original thereof not having been proved or its absence accounted for. Further the alleged copy does not purport to be a complete copy.

The execution, delivery and authenticity of Exhibit 151 (page 563) have not been proved, there being no proper notarial certificate of acknowledgment of such execution, the document attached to said exhibit purporting to be such certificate of acknowledgment being without venue.

Similar objection is made to Exhibit 160 (page 585) on the ground that the document attached thereto purporting to be a notarial certificate of acknowledgment lacks any date.

Objection is made to numbers 188 (page 648) and 196 (page 672) in so far as the execution of either thereof by the Union Gas Light Company is concerned, on the ground that the document attached to each of said exhibits and purporting to be a notarial certificate, is fatally defective in failing to state that the officer who signed the corporate name to each of said exhibits signed such name and his own name as an official of said corporation by authority of the board of directors of said corporation.

Objection is made to numbers 129 (page 512), 161 (page 587) and 169 (page 606) for the reason that although each purports to be an instrument in writing under seal, the seal is absent from each of said exhibits.

Objection is also made to Exhibit 161 (page 687) on the ground that there is no proof that the official purporting to take the acknowledgment of said instrument was duly authorized to take such acknowledgment or to take the acknowledgments and proofs of deeds of lands to be recorded in the State of New York.
2935 Objection is made to Exhibit 134 (page 524) introduced in evidence as an assignment to William M. Tweed, Jr., on the ground that said exhibit offered in evidence is not such assignment, it appearing upon the face thereof without explanation that the name "A. Oakey Hall" has been stricken out and the name "William M. Tweed, Jr." interlined in place thereof in the handwriting of William M. Tweed, Sr., and there being no proof or evidence that the said exhibit at the time of its execution was an assignment to William M. Tweed, Jr., and not to A. Oakey Hall.

Similar objection is made to Exhibit 142 (page 539), offered in evidence as an assignment of the interest of Henry Johnson, on the ground that it appears on the face of said exhibit without explanation that the name "William" has been stricken out and the name "Henry" interlined in place thereof, and there being no proof or evidence that at the time of its execution the said document was an assignment by Henry Johnson.

Similar objection is made to Exhibit 144 (page 546), offered in evidence as an assignment to James M. Sweeny, it appearing on the

face of said exhibit without explanation that in one place the name "Hugh Smith" has been stricken out and the name "James M. Sweeny" interlined in place thereof, and in another place also without explanation the name "Hugh Smith" has been stricken out and the name "A. Oakey Hall" interlined in place thereof, and the name "James M. Sweeny," then interlined in pencil in place of the said name "A. Oakey Hall," the name "James M. Sweeny," in each case being in the handwriting of John J. Bradley, as appears by a comparison of said handwriting with the signature of said Bradley upon Exhibit 145 (page 550).

In this connection the Master is referred to the endorsement
2936 in pencil upon the back of Exhibit 133, (page 521), namely "Chk. to J. J. Bradley;" and to the reference to Hugh Smith in Exhibit 120, page 492, purporting to be an affidavit of William Foster, Jr., and to the erasures in said affidavit of the words "eligible as such."

Attention is also called to Exhibit 180 (page 629), purporting to be the resignation of Hugh Smith as a member of the Executive Committee.

Similar objection is made to Exhibit 145 (page 547), for the reason that in what purports to be the acknowledgment of the execution of said instrument the name "William M. Bradley" has been stricken out and the name "John J. Bradley" interlined in place thereof, and the word "Nov." has been stricken out and the word "Dec." interlined in place thereof, all without explanation and without proof as to the condition of said instrument at the time of its execution.

Similar objection is made to Exhibit 156 (page 574), for the reason that in what purports to be the acknowledgment thereof, the words necessary to show that the acknowledgment was by Bernard Smythe, as Attorney in fact for Henry A. Smith," have been interlined without explanation and without proof as to the condition of said exhibit at the time of its execution.

Similar objection is made to Exhibit 160 (page 585), offered in evidence as an assignment to A. Oakley Hall, for the reason that it appears upon the face of such exhibit without explanation that the words "Hugh Smith" were stricken out and the words "A. Oakley Hall" interlined in place thereof, and there being no proof as to the condition of said exhibit at the time of its execution.

In this connection attention is called to the reference to Hugh Smith, Exhibit 120 (page 492), purporting to be an affidavit
2937 of William Foster, Jr., and to the erasures in such affidavit of the words "eligible as such."

Attention is also called to Exhibit 180 (page 629), purporting to be the resignation of Hugh Smith as a member of the Executive Committee.

Similar objection is made to Exhibit 165 (page 596), for the reason that it was offered in evidence as an assignment by William Johnson, who does not purport to be one of the grantees named in Chapter 944 of the Laws of 1871, and for the further reason that the words necessary to connect the person executing said instrument with William Johnson, one of the grantees named in said Act, have been

interlined in said Exhibit without explanation and without proof as to the condition of said Exhibit at the time of its execution.

Same objection is made to Exhibit 167 (page 601), offered in evidence as an assignment to Peter B. Sweeny, it appearing upon the face of said Exhibit without explanation that the name of "James M." before the name "Sweeney" was stricken out and the name "Peter B." interlined in place thereof, and on the back of said assignment the name of "James M. Sweeney" is stricken out and the name "Peter B. Sweeney" written in red pencil thereon, and there being no proof as to the condition of said Exhibit at the time of its execution.

Attention in this connection is called to Exhibit 195 (page 671), the signature of H. H. Porter thereto having been stricken out in red pencil and the word "error" written opposite thereto in red pencil.

Attention is also called to the fact that all of these Exhibits 101 to 215, both inclusive, bear upon the backs thereof numbers written in red pencil of the same color and style as was used to make the interlineations of the name of "Peter B. Sweeney" on the backs of
2938 Exhibit 167 and to strike out the signature of H. H. Porter in Exhibit 195.

On the back of Exhibit 167 and to strike out execution of H. H. Porter in Exhibit 195.

Objection is made to the following exhibits, and each of them, on the ground that there is no proper proof of the execution, delivery and authenticity of any one of them, the notarial certificate in each case stating, "Before me came —— —— to me known to be the person described in, &c.," and failing to state, "Before me came —— ——, to me personally known and known to me to be the person, &c."; 121, 122, 125; 127 to 133 both inclusive; 135 to 138, both inclusive; 140 to 145, both inclusive; 149 to 168, both inclusive; 170 to 178, both inclusive; 181 to 194, both inclusive; 197, 198; 203 to 214, both inclusive.

Objection is made to Exhibit 170 (page 607), for the reason that the notarial certificate of acknowledgment fails to state that Henry W. Genet, purporting to be the person who executed the said exhibit, was known to the Notary Public to be the same person, the words "known to me to be" being omitted from said certificate of acknowledgment.

In connection with this objection and the one preceding I refer the Master to acknowledgment on Exhibits 147 and 148, which are unquestionably in -correct form; also, to the acknowledgment on numbers 191, 194 and 206, which purport to have been taken outside of the State of New York, and in which cases certainly the Notary should have stated that the person acknowledging the instrument was personally known to him.

If these objections are overruled for any reason I move to strike out the exhibits on the grounds specified in said objections respectively.

I move to strike out all reference in the testimony to an in-
2939 vestment by the Consolidated Gas Company at Astoria, on the ground that the same is irrelevant, the evidence showing that such investment was made by the Astoria Light, Heat & Power

Company and that the only relation between that company and the complainant is that the complainant owns all the stock of the Astoria Company and holds certain evidences of debt issued by that company; and on the further ground that the said Astoria Light, Heat & Power Company is not shown upon this record to have any right to operate in the Borough of Manhattan, either directly or indirectly.

And in this connection I desire to call the Master's attention to the fact that it is conceded that the Consolidated Company owns a controlling interest in the stock of the New Amsterdam Company and that the latter owns all the stock of the East River Gas Company of Long Island City. But in case there should be any doubt of that I desire to quote from report of the Stevens Committee—you no doubt will concede that, won't you, Mr. Garver?

Mr. GARVER: I am not making concessions. If it is on the record it is conceded. If it is not on the record it is not conceded.

Mr. BURR: It is on the record.

The MASTER: I think you brought it out by Mr. Carter.

Mr. PAGE: I would like to join in the objections to the various exhibits and in the motions Mr. Burr has made with regard to them.

Mr. BURR: I would like to have entered upon the record about these franchises, this stipulation, if it is agreeable to counsel:

It is hereby stipulated and agreed by and between counsel for the respective parties to this action that the original of any exhibit, whether printed in the record or not printed, will be produced at any hearing or argument, provided reasonable notice be given
2940 for its production, and counsel may refer to or quote from on brief or argument any exhibit whether printed in this record or not.

No objection.

Mr. BURR: In connection with the testimony in the case already given here as to the kind of plants operated in this borough by the Consolidated Gas Company, and also in connection with the construction of the plant at Astoria, I think it important to produce before the Master, as being an official explanation of the situation as regards both those matters, the character of the plants in the Borough of Manhattan and the necessity for the Astoria plant, what appeared in the New York *Daily Tribune*, Friday, April 15, 1904, and I would ask Mr. Garver now whether this statement which is headed "To allow Gas Plants' Removal. Consolidated Gas Company declares that is purpose of Remsen East River bill," was not an official statement issued by the Company.

Mr. GARVER: I don't know as I have ever seen the statement before, but I certainly cannot concede that it was or that it is competent evidence here, or that there is any proof that it was ever made by the Company.

Mr. BURR: This purports to be a statement given out by a representative of the Consolidated Gas Company in view of the persistent misrepresentations, as to the purpose and effect of the so-called East River gas bill.

Mr. GARVER: I object to your reading anything from newspapers.

Mr. BURR: If you like I will read it, and if we cannot prove it we will have it stricken out.

Mr. GARVER: I object to it as irrelevant and incompetent and mere hearsay.

The MASTER: You can offer it, Mr. Burr, if you like, and I
2941 will exclude it, and it will be printed as an excluded exhibit and you will have it in the record.

Mr. BURR: All right, sir. I offer it.

Received in evidence and marked City's Exhibit 55.

Mr. BURR: City's Exhibit 55 is as follows:

"The following statement was given out by a representative of the Consolidated Gas Company yesterday:

"In view of the persistent misrepresentations as to the purposes and effect of the so-called East River Gas Bill, the Company, contrary to its usual custom, has decided to make a statement on the subject. For the last ten years it has been the desire of the Gas Company, and the successive local administrations, to remove from the Island of Manhattan its fourteen gas plants, which are (under the most favorable conditions) not good neighbors, and assemble them on a single site at Astoria.

"At this point it has undertaken to make an investment of some fifteen million dollars in modern machinery and buildings. When this work was under way it was accidentally discovered that, through the neglect of an attorney some time between 1871 and 1878, to record a deed or a bill of sale, the chain of franchise title of the East River Gas Company was to that extent impaired. Since it was necessary, in making the vast improvement at Astoria effective, to use this East River franchise, the so-called Remsen East River Gas Bill was introduced in the Legislature to correct the clerical omission of the attorney. This bill was passed last year, but Mayor Low was informed by his Corporation Counsel, Mr. Rives, that the
2942 Company's title was defective, and he thereupon refused to sign the bill, notwithstanding that the avowed purpose of the bill was to correct a clerical omission.

"The Gas Company was thereupon forced into the Supreme Court, where, in mandamus proceedings, it obtained an order based on the validity of its charter, compelling the authorities to permit it to lay its mains in their city up to the new Astoria plant. The financial interests directing the vast public improvement did not wish to make an investment of this magnitude subject to court orders and so it sought affirmative legislative relief, and the Remsen Bill was again introduced and again passed.

"As the new gas station at Astoria, when completed, will be five times larger than any other in the world, and will bring together, on a new location, about 10,000 people, the citizens of Queens have been very active in assisting this matter, and have petitioned in its favor.

"In respect to modern gas manufacturing practice, New York is far behind London, Vienna, Paris and Berlin, where the authorities long since compelled the isolation of gas making plants outside the centres of population.

"The sole effect of the Remsen Gas Bill will be to facilitate and make safe the expensive work of bringing New York up to the sanitary level of these cities."—New York Tribune, Friday, April 15th, 1904.

Mr. BURR: Do you wish me to call your attention to any cases upon any particular points I have made, while we are here?

The MASTER: I shall have to have some cases if I am ex-
2943 pected to rule on all these propositions, and I should like to have some statement of cases from the other side. I suppose as a matter of course they must have looked into some of these things before.

Mr. GARVER: These motions are the technical kind that might have been made in the days of Lord Coke in an action in ejectment. Mr. Burr states that we are required to make strict proof of everything in this case. We do not understand that that is the rule at all. I do not understand that this is an action that we have brought to compel a recognition of our franchise rights, or that we are required to show that every assignment of every fractional interest has been executed and acknowledged in a precise manner to have enabled it to be recorded as a deed. There is not any such rule of evidence as that which applies to this case. They have put on their magnifying glasses here and they have subjected every page to a microscopic examination and they come in and urge these little, miserable, petty objections after the company has been doing business for more than a generation—after all those people have passed away. Now there is no rule of evidence that is better settled than that an ancient document proves itself. If a document is thirty years of age the mere production of it from the proper custodian is enough. If a document is not thirty years old, as some of these may not be yet, the very fact that a long time has elapsed certainly makes it incumbent upon the Master to take that into consideration in viewing the effect of the objections that have been made here. As I look at it, these objections are either too general, such as ought to be urged really in summing up the case, or they are too infinitesimally minute and they are all based really on the theory that we get all of our rights from the City. Now that is the greatest kind of an error and it is an error that has crept into the public press and that is shared by the
2944 community generally. It is not the fact and it is not the law. We get our rights from the State, and the only act on the part of the City under the laws as they have existed since 1848, is the consent of the City that we shall exercise the franchise that the State has conferred upon us. Now, it is the State and it is the general law that gives a gas company that is organized under that law the right to lay and maintain mains in the streets of the City. The City has the right to consent to it but the statute does not require any formal or even written consent to our exercise of the right. That precise question has been recently passed upon by the Appellate Division in the Second Department in the case of the New York and Richmond Gas Company. That was decided in 89 App. Div. In that case they refused to recognize the right of the gas company to lay its mains and I think the proceeding was one to compel the City to grant it a permit. They did not have a scrap of paper, did not have any written consent of any kind, but that company and its predecessors had operated there for a number of years—I think perhaps fifty years; and the Court said that in a case of that kind it would be assumed that the City had consented by such long acquiescence, the

consent would be presumed, and they cited a case, Jorgenson against Squire, I think in the Court of Appeals, being the case of maintaining an area-way under the sidewalk and where that existed over twenty years. The Court there held it would presume the right had been granted. And more recently, the Appellate Division in the Second Department has held that a consent would be inferred or assumed from the fact that the City entered into a contract with the gas company, that that in itself was a recognition.

Now that is all that we need to prove in this case. We are
2945 not proving down to the minute details as to what our franchises are. We do not have to; we did not have to give any proof of that fact. The mere fact that we have been operating in the streets for nearly one hundred years, with the consent of the City, and that we are getting permits from the City every day to lay and maintain our mains, and the fact that no proceedings have ever been instituted against us, raises the strongest kind of presumption and is the most persuasive sort of evidence that we do have franchise rights and that those rights are necessarily—where, as was shown, we have over eight hundred miles of mains in the City streets—of very great value. Now we don't have to come down to showing exactly what our franchise rights are. We could rest on that mere fact; the fact that we own these mains in the streets, and that we are an operating company. And their corporate existence will run along for thirty years yet and then it can be renewed merely by getting the consent of the stockholders which shows that we have franchises of very great value, and that is all that we need to show.

The issue in the present case is not whether the Consolidated Gas Company has a right to do business in the city, but it is what it shall charge for that right. In other words, the issue that they seek to raise here is necessarily presumed in this litigation, that we have rights but that those rights must be limited, that we cannot charge more than eighty cents for gas, and the Gas Commission whose order we attack in this case has necessarily passed on that because they say not the companies in general, but the Consolidated Gas Company in particular, shall charge only eighty cents; therefore they recognize affirmatively our right to operate in the streets of the city. Now a great many of these questions that have been raised as ques-
tions of evidence are not questions of evidence at all. For
2946 instance they object to those old rights away back in 1823 and 1830 and so forth on the ground that they have expired. Now that is a question that we shall argue before you when this case is submitted. We shall maintain the proposition that where the Legislature has granted to a corporation the right to lay and maintain mains, that although that right may be limited say to thirty years and although you may not be able to lay any mains after the expiration of that period, yet if your corporate existence continues the company that owns those mains has the right to manufacture and supply gas thus limited. That is merely a question of occupying the streets; that having been permitted to lay those mains, and its corporate existence with all the powers that that implies continuing, it has the right to maintain the mains. Now that is one of the propositions I do not need to argue now because it is something to take into consideration on the final hearing.

Then, too, as to the assignability of these franchises, as to whether they are assignable or not, that is purely a question to be considered, when we come to consider these assignments it can be met, but it is perfectly well settled that franchises of this kind can be assigned. Since the courts have held that franchises are property it necessarily follows that the person who owns that property can dispose of it, unless there is an express restriction or prohibition against its assignment. That was passed upon in the Broadway franchise case, People *vs.* O'Brien, 111 N. Y. That is the Jacob Sharp franchise, and there, as you remember, the Legislature repealed the charter. The company had previously mortgaged the franchise and the Court of Appeals held that that franchise was property, that it was therefore subject to mortgage and that the Legislature could not repeal it.

2947 In other words, they held that the company in spite of the fact that its corporate existence had been terminated had the right to assign the franchise that was given to it, which of course was their property, and it is being exercised to-day.

But there was a case that is directly in point, the case of Parker *vs.* Elmira, Cortlandt & Northern Railroad Company, 165 N. Y. That was a case where the old Utica Railroad Company had been given the right to charge four cents a mile and subsequently it went into the hands of a receiver and the mortgage was foreclosed. Its property was sold and it was bought in by an individual, who, of course, did not have any right to run a railroad and he transferred it to the Elmira, Cortlandt & Northern Railroad Company, the defendant in this case to which I refer, and the question came up whether that company had obtained this right. The Court of Appeals said that it had, although in the original Act it was restricted to the original railroad company it was given to that company and its assigns. That must be the law where a company owns property; unless its right to transfer that property is expressly restricted it of course has the power to assign it.

Now, all these minute objections to these particular instruments, as to whether the word "duly" or "personally," etc., are contained in the certificate of acknowledgment have absolutely faded out of existence when you consider the fact that by the consolidation of 1884, which was twenty-two years ago, the franchises of those various companies, including the Knickerbocker Company which had obtained a special grant, were vested in the Consolidated Company. Now, if A, or B, or C, or D did not transfer the very small fractional interest which he may have had in that original grant the fact that this was a matter of such general public concern and at that time

2948 it was recognized, especially by the Legislative Investigation that the franchises were transferred to the Consolidated Gas Company, if any of these persons as to whom objections has been made had not transferred his rights or duly sold his rights prior to that time, he clearly would be estopped at this late date from coming in and stating he had any rights.

Mr. BURR: I want to say just this in reply. It is quite evident all through this case and particularly from what Mr. Garver has said now, that these alleged franchises are regarded as very valuable property—nay, more property that they claim that they have a right

to capitalize and that capitalization shall be a source of revenue from the consumer. Now that is a very serious proposition to the consumer of the City of New York and therefore I think they are bound to prove that right if they are going to ask the Master and this Court to say we have so many millions of dollars invested in these franchises, they represent so much property——

The MASTER: So far as you are concerned, Mr. Burr, representing the City, are you not estopped from claiming that those franchises are not worth at least the amount for which you are now assessing them?

Mr. BURR: I think not, under the decisions. The fact that they are assessed or have to pay taxes is not to be taken as a recognition of their validity.

The MASTER: In other words you can tax them on the basis of so many million dollars and at the same time contend here that for the purpose of capitalization they are valueless?

Mr. BURR: Just as they can say "we should not be taxed at all," and that is being litigated. That does not bind us in a case of this kind.

I will call your Honor's attention to another matter: Mr. Garver says these "petty objections." I do not believe they should be characterized that way, but if they are petty it is because it is the
2949 first time these papers have seen the light of day; they have never been recorded and I do not believe they have ever been produced heretofore in any similar proceedings by this Company where the question of their validity was brought up.

Mr. GARVER: I do not think you should make that statement. That is evidently beyond your personal knowledge.

Mr. BURR: I am expressing *by* belief, that so far as my knowledge goes, these papers were never produced in any proceeding before, and I know they were never recorded; and further, I believe they were never recorded because they were defectively executed.

Mr. GARVER: They did not require to be recorded.

Mr. BURR: And they purport to transfer an interest in real property.

Mr. PAGE: As far as their not having been produced before is concerned, they were not produced before the Stevens Investigating Committee, I mean none of these under the Act of 1871; nor any of these assignments under that Act. The counsel for the Consolidated Gas Company stated when they had completed offering all the franchises that they offered at that time that those were all the franchises that the Consolidated Gas Company claimed to hold. And in the matter of the investigation before the Commission, merely the franchises that were put in evidence before the Stevens Committee were read in evidence. So far as recent investigations are concerned, the first time we ever knew that the Act of 1871—which was a general grant to a lot of politicians—had ever become vested in any constituent company of the Consolidated Gas Company, was when produced here.

Mr. GARVER: We do not rely on one franchise. We rely on all the franchises we have.

2950 Mr. PAGE: Of course, if the position of the Gas Company is that they have no franchise except that which they have ob-

tained by prescription, of course that is all right, and we will value what they have got by prescription, what it is worth, but if they claim to have some exclusive franchise or franchises which are granted to them by some authority, that is another thing. That might be worth something. We would like to know what their position is, because if they claim they have acquired rights——

Mr. GARVER: I thought I had made my argument clearer than that. My point was in showing that we do not get our rights from the City, that the City merely consents and acquiesces, and therefore that we are not bound down to technical rules of evidence which apply in an action at law. We have got other franchises, for instance, the Harlem franchise that we claim to be perpetual above 79th Street, and a very valuable one, and on that alone we think a very large amount could be given as its value.

Mr. BURR: I just want to say in answer to that point that Mr. Garver has raised, with regard to the acquiescence of the City in the situation, that he may and does contend that the City has acquiesced for twenty-two years in the existence of the Consolidated Gas Company and recognized the legality of its existence by giving it permission to extend mains, contracting with it for the lighting, &c. This is immaterial because the City had to have gas and had to buy the same from this company. Up to 1904 it had no legal authority to make its own gas or light its own streets. The controversy with this complainant arose in 1903 and the City's acquiescence in the existence of the complainant was therefore involuntary. The City had no other recource and was acquiescent as if under duress.

2951 The City is not the aggressor in this litigation. It is seeking to defend itself against the assertion of extraordinary claims. It is not asking that the pipes in the streets be torn up. It might concede, though it concedes nothing, that the company is in the position of a licensee, and has no other rights than a mere licensee. The company's business might not be destructible without compensation, it certainly should not be held to have perpetual rights upon which it may rely for all time so as to prohibit progress in lighting except upon its own extortionate terms.

If Mr. Garver's contention is true, they have an absolute right in the streets which time cannot change and whatever change there may be in lighting, a perpetual right against the City, which is a very serious question. It may be in this action the Court may disregard these franchises as an element going towards the capitalization or increasing or enhancing the capitalization or in any way affecting the price of the manufacture and distribution of gas. It may disregard it and say, That is an issue with which we have nothing to do here. But if it does take those matters into consideration it is going to very seriously affect the City of New York in the regard as to whether these franchises are legal or not, so that I believe, therefore, that we are justified in presenting to the mind of the Master all the possible objections we have and all possible claims at this time, so that later on we may elaborate them still further in our brief.

The MASTER: I shall be glad to have you, and I should be glad particularly to hear what you have to say in your brief on that question of taxation. As against the city, it seems to me that is a serious question.

Mr. BURR: The tax you refer to is a tax levied by the State.

2952 Mr. GARVER: No, it is not a tax levied by the State. It is like any other piece of real estate, it is assessed by the State officers but becomes part of the local real estate assessment, because they send it down here and then it is entered on the assessment books here.

Mr. BURR: Which tax do you refer to?

Mr. GARVER: To the State Franchise Tax. It seems to me that is also conclusive against the State, because the State gets its share and the City assesses it.

Mr. BURR: The City's duties in that regard are purely clerical. The assessment of the taxes is by State officers over whom the City has no control.

The MASTER: Well, for the purpose of this litigation, as the State and City are both parties, I do not suppose there is any particular significance in that distinction. We have got them all here, and they all have to defend their rights.

Mr. BURR: In view of the absence of Mr. Mathewson at the Court of Appeals, I have arranged with him not to produce Professor Bemis until to-morrow morning when Mr. Mathewson returns, and I will then be ready to proceed with Professor Bemis.

Adjourned to Tuesday, October 16, 1906, at Eleven o'clock A. M.

Last Exhibits:

Complainant's 256,
State's W,
City's 55.

2953 UNITED STATES OF AMERICA,
Southern District of New York, ss:

I, John A. Shields, Clerk of the Circuit Court of the United States of America, for the Southern District of New York, in the Second Circuit, do hereby Certify that the foregoing (Vol. 4) pages, numbered from 2249 to 2952 inclusive, contain a true and complete transcript of the record and proceedings had in said Court, in the cause entitled Consolidated Gas Company, Complainant, Appellee, against Julius M. Mayer, as Attorney General, *et al.*, Defendants-Appellants, as the same remain of record and on file in my office (Vol. 4)

In Testimony Whereof, I have caused the seal of the said Court to be hereunto affixed, at the City of New York, in the Southern District of New York, in the Second Circuit, this 15th day of May, in the year of our Lord One Thousand Nine Hundred and eight and of the Independence of the said United States the One Hundred and thirty-second.

[Seal of U. S. Circuit Court, South Dist. New York.]

JNO. A. SHIELDS, *Clerk.*

[Endorsed:] United States Circuit Court of Appeals for the Second Circuit. —— —— *vs.* —— ——. Transcript of Record from the Circuit Court of the United States for the Southern District of New York.

2953½ Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York, WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *October* 16, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Burr and Mr. Kirby.

U. S. Circuit Court, Southern District, N. Y. Filed Jun- 24, 1907.
[SEAL.] JOHN A. SHIELDS, *Clerk.*

2954 EDWARD W. BEMIS, a witness called on behalf of the city, being first duly sworn, testified as follows:

Direct-examination by Mr. BURR:

Q. What is your age?
A. 46.
Q. Are you a graduate of any institution of learning?
A. Yes; Amherst in 1880 and the Johns Hopkins University, where I received the degree of Doctor of Philosophy in 1885.
Q. Have you made a study of the gas question?
A. Yes.
Q. When did you begin to make a study of that question?
A. About 1889, when I was in charge of Economics at the Vanderbilt University at Nashville, Tenn. I took an interest in the special study of municipal gas works at that time and visited the various municipal plants then in operation in this country, and finally prepared a monograph at the request of the American Economic Association, which they published.
Q. Upon what subjects?
A. Upon Municipal Gas in the United States. That was published about 1891.
Q. What have you written on the subject?
A. In 1897 I prepared a report for the Special Bureau of Labor Statistics of Illinois, upon the Gas and Street Railway situation in Chicago, making a study of the franchises and the cost of manufacture and distribution of gas, and, generally, a history of those two problems in Chicago. Then in 1899 T. Y. Crowell & Co. published a book on Municipal Monopolies, which I edited. I wrote the chapter on gas and about half of the other chapters; and I have written

a good deal at different times in the magazines and papers, periodicals, etc., on the subject.

Q. Now have you appeared and given testimony in the
2955 courts before Commissions upon this subject, and if so please state where and when?

A. I appeared before the United States Court at Des Moines, Iowa, about 1893. I think I appeared first about 1892 and again in 1893, or 1894, before the same court. Then I subsequently have appeared before many different tribunals. I have appeared before the Massachusetts State Gas Commission in the case of the Springfield, Haverhill and Boston gas companies, and before the New York State Gas Commission in this Consolidated case a year ago, and have appeared also before the same State Gas Commission in the Syracuse case last spring.

Q. That is, you appeared before the State——

A. The New York State Gas Commission. I appeared before a State court in Baltimore last spring with reference to a gas case in Baltimore. I appeared before the Chicago City Council last winter. I also prepared a report for the Montreal City Council.

Q. What was the occasion of your appearance before the Chicago City Council?

A. The question of a proper price of gas was being considered by the city, and they called upon several to appear before them and give evidence. I was one.

Q. And you say you prepared a report for Toronto?

A. No; the City of Montreal; at the request of the City Council.

Q. Upon what subject?

A. That was on a proposed municipal gas plant. The cost of the plant and its operation. Then I have had occasion to make a good deal of study of the gas question within the last year or two in connection with the National Civic Federation, which created a committee of twenty-one to make an investigation of municipal, as compared with private, gas and electric light and street railway and water works, here and abroad. They created a special committee of five, of which I happened to be a member, and which had the
2956 direction of the work and the hiring of the experts; and they have been in Europe—were in Europe——

Q. Who, the experts or the committee?

A. Both. We were in Europe together during the spring. And then there was created a special committee of four to analyze the results of this investigation in America and in Europe, and I am one of that committee.

Q. And you are engaged on that work now?

A. Yes.

Q. While in Europe, while a member of that committee to which you referred, did you visit the gas plants there and electric light plants?

A. I visited them in Great Britain. We did not go on the Continent for that purpose.

Q. Have you visited gas plants in America to any extent?

A. Yes; I have visited a great many; and I may say visited gas

works in Great Britain in 1900 also, when I was over there on another occasion, not connected with that directly.

Q. In what cities in the United States have you visited gas plants?

A. Boston, Worcester, Lowell, Haverhill, Springfield, Holyoke; and, further west, in Syracuse, Cleveland, Toronto, Chicago, Cincinnati, Baltimore, Philadelphia. I suppose there are a good many others, but those are some of the larger ones. I know I have visited the municipal plants. All of those I have visited a good many times—Richmond, for example, and Hamilton and Wheeling, etc.; a good many small works, Duluth.

Q. You are now and have been for some time in the employ of the City of New York as an expert in this matter of the Consolidated Gas Company?

A. Yes.

Q. And in connection with the general lighting situation which exists between the city and the various gas and electric light companies?

A. Yes.

Q. Have you made a study of the testimony in this case,
2957 and if so you may state exactly what you have done in connection with this case and prior investigations regarding the Consolidated Gas——

A. Well, I prepared myself by a review of the evidence taken in all the previous hearings which I had already read at previous times, such as the two reports made in 1885 and 1886, to the New York State Senate; and the Stevens report and evidence and exhibits; and the evidence taken before the New York State Gas Commission in this case, and the exhibits and evidence in this case.

Q. And the exhibits before the Gas Commission?

A. Yes, that's right. And I have made special studies of such facts as I could gather in the files of the Massachusetts Gas Commission.

Q. Now, you have heard or read all the testimony in this case?

A. Yes.

Q. And you have made a study of all the exhibits in this case?

A. Yes.

Q. Which exhibit do you desire to take up first for your consideration now?

A. Exhibit 93 and Exhibit 94 more particularly; Exhibit 93 at first, and also a more detailed analysis of that exhibit which appears as Exhibit 145 in the printed testimony before the State Gas Commission of this State.

Q. Now, do Exhibit 93 and Exhibit 94 divide the cost of gas to the Consolidated Gas Company?

A. The Exhibit 93 refers to the twelve months ending October 31st, and Exhibit 94 is for the calendar year 1905—the other for the year, I said, ending October 31st, and each of them divide the cost into the cost at the holders or the manufacturing cost, and other costs which the company itself divides into Distribution, and General Cost and Fixed Charges.

2958 By Mr. MATHEWSON:

Q. Referred to as "Station Cost" in the exhibit?

A. I think it is. And these fixed charges. That is one of the four. The last was "Fixed Charges."

Mr. BURR: I want to offer in evidence—I do not think it is in evidence yet—Exhibit 145 before the Gas Commission. It is the statement purporting to be "A Statement of Summary of Operations for the Nominal Year Ending October 31st, 1905, All Stations," offered by the Consolidated Gas Company of New York in the proceedings before the Gas Commission, and appearing upon page 2112——

Mr. MATHEWSON: It was not offered by the Consolidated Gas Company.

Mr. BURR: It was not?

Mr. MATHEWSON: No. It was prepared at the request of the Commission, at the request of Professor Bemis, and submitted by the complainant in the proceeding before the Gas Commission.

Mr. BURR: Well, it is an exhibit in the proceedings there?

Mr. MATHEWSON: Oh, yes, if it so appears in the record.

Mr. BURR: Yes.

The WITNESS: It was prepared by the Consolidated Gas Company, as I understood it.

Mr. BURR: I offer it in evidence, commencing at page 2112 and ending at the bottom of page 2135.

Received in evidence and marked City's Exhibit 56.

Q. How do Exhibits 93 and 94 divide the cost?

2959 A. They divide the cost between station costs and all the other costs which the company divides into Distribution, General and Fixed Charges.

Q. Exhibit 93 gives——

A. That gives the so-called operating cost as 72.12 cents, and Exhibit 94 gives it as 74.81 cents. That exhibit was for a later period, you see, covering the calendar year of 1905.

Q. Well, in each case is there a division between the cost at the holders?

A. Yes, I think that is very properly made between the cost at the holders or the station, commonly known as the manufacturing cost, and all the other costs, which, as I have said, the company divides into Distribution, General and Fixed Charges.

Q. What did you do with the interest charges?

A. They are no- an operating cost; they are an interest on indebtedness and are in the nature of a return on capital and should be eliminated from the study of operating cost.

Q. What did you do with the consumers' deposits?

A. The same remark applies to those.

Q. Now, will you describe what these two items are in Exhibits 93 and 94?

A. Yes. In Exhibit 93 the fixed charges are 7.04 cents and the interest on consumers' deposits is——

Q. Excuse me. You can get it in a little more accurately?

A. Yes. Here is a table which I prepared for the stenographer, as follows:

TABLE 1.

Elimination of Return on Capital.

Description.	Ex. 93.	Ex. 94.
Fixed Charges	7.04c.	7.32c.
Interest on consumers' deposits	0.40	0.39
Total return on capital	7.44	7.71
Total operating cost as given by company	72.12	74.81
Operating cost as corrected above	64.68	67.10

2960 Q. The table you have prepared is in three columns, headed, "Description, Exhibit 93, Exhibit 94"?

A. Yes. "Elimination of Return on Capital" is the heading of the paper.

Q. Under the heading of "Description" you have "Fixed Charges"?

A. Yes.

Q. Under "Exhibit 93" that appears to be 7.04 cents?

A. Yes.

Q. Under the heading of "Exhibit 94" it is 7.32 cents?

A. That's right.

Q. The next item is "Interest on Consumers' Deposits" and under "Exhibit 93" is 0.40?

A. Yes.

Q. And under "Exhibit 94" you have 0.39 cents?

A. Yes.

Q. The "Total Return on Capital" under "Exhibit 93" is 7.44 and under "Exhibit 94" it is 7.71 cents?

A. Yes, sir.

Q. The "Total Operating Cost as Given by Company" is under "Exhibit 93" 72.12 cents and the total under "Exhibit 94" for the same item is 74.81?

A. Yes.

Q. "Operating Cost as Corrected Above," under "Exhibit 93," is 64.68 cents and under "Exhibit 94" is 67.10 cents?

A. Yes, sir.

Q. That is correct, is it?

A. Yes, sir.

Q. What was the manufacturing cost in Exhibits 93 and 94?

A. Well, I include in that, as does the company, the cost at the holders; that means cost of manufacturing and any expenses connected with it; maintenances of the holders, and so it is all the cost up to the time that the gas leaves the holder. Now this cost as given by the company was 32.84 cents in Exhibit 93, and 32.77 cents in Exhibit 94.

Q. How is it divided?

A. It was divided into gas made by the Consolidated Company and gas purchased under the agency agreement.

Q. Have you a statement showing that division?

A. I have a statement here and I will hand it to the stenographer. It is as follows:

2961 TABLE 2.

October 31, 1904-1905. January 1 to December 31, 1905.

Gas Made and Bought Under Agency Agreement.

Description	Feet, Exhibit 93.	Feet, Exhibit 94.	Cost, Ex. 93.	Cost, Ex. 94.
Gas made	10,659,909,000	10,657,810,000	32.68c.	32.42c.
Gas purchased on agency agreement	3,062,354,768	2,929,210,322	33.38c.	34.04c.
Total	13,722,263,768	13,587,020,322	32.84c.	32.77c.

2962 The WITNESS: That shows that they made, according to Exhibit 93, 10,659,909,000 feet and that the cost was 32.68 cents.

Q. Wait a moment. If you just give the statement as it is there you will get the matter clearer. This is a statement of the gas made or bought under agency agreement, October 31st, 1904, to 1905, isn't it?

A. That is a mistaken heading you have on your paper. That should be October 31st, 1904-1905, and January 1st-December 31st, 1905, for there are two periods covered. One is in Exhibit 93; the other is Exhibit 94.

Q. That statement that you have prepared is divided into five columns, is it?

A. Yes, sir.

Q. The first column is "Description"?

A. Yes.

Q. And the second column shows the feet made under Exhibit 93, the third column shows the feet made under Exhibit 94, the fourth column shows the cost under Exhibit 93 and the last column shows the cost under Exhibit 94?

A. Yes.

By Mr. MATHEWSON:

Q. That is the cost of the gas made and not the cost of that portion of the gas made which reached the consumers' meters?

A. This is per thousand cubic feet of gas made. This is not per thousand cubic feet of gas sold to the consumers.

Q. So it is not computed on the same basis as the station cost in Exhibits 93 and 94, is it? Or, is it?

A. Yes, I think so.

Q. On the same basis as in the last column in Exhibits 93 and 94?

A. Yes. This is taken directly from those exhibits.

By Mr. BURR:

Q. Now, have you any criticism to offer as to the station
2963 cost or cost at the holder of the gas made?
A. Yes.

Mr. MATHEWSON: If it is anything that appears on these exhibits, if the Master please, I have no objection to the witness showing a mathematical error in computation, or something of that sort, but if he proposes to criticise the inclusion of items here, or say that they are too much, or too little, I must object to that, because the witness has never operated a gas plant, he has never built a gas plant, he has never been in the gas business, and he is not an expert qualified to speak in that subject. I would like to ask the witness a question.

By Mr. MATHEWSON:

Q. Have you ever managed a gas plant?
A. No.
Q. Have you ever constructed a gas plant?
A. No.
Q. Have you ever been in the gas business?
A. No.

Mr. BURR: A man might understand political economy and never have run a green grocery.

Mr. MATHEWSON: He probably would not understand political economy if he had spent his life as a green grocer.

Mr. BURR: He would understand a good part of it.

Mr. MATHEWSON: I do not know quite what the answer may bring forth, but I think in time I should register that objection, which it seems to me cannot be passed over.

By Mr. BURR:

Q. Mr. Bemis, whatever your testimony may be, it is based upon the result of the study which you have stated to the Master
2964 you have made on this subject, together with a careful study of all the testimony and exhibits in this case?
A. Yes, sir.

Mr. MATHEWSON: A man would not be qualified even to study, if study would qualify a man as an expert in a matter of this kind, unless he had some preliminary practical knowledge, in my judgment. But I doubt if study of practical knowledge will justify a man in appearing as an expert and saying, this is too much for this, and that is too much for that, when he never operated a plant.

Mr. BURR: That is something that appeals to the Master. If the Master thinks his testimony in that regard is entitled to so much weight or no weight, that is for him to say.

The MASTER: It is very difficult for me in advance of the testimony to pass on your objection with any degree of intelligence, but I am inclined to let the professor attack your tabulations and figures from the standpoint of a statistician, if you please, or an expert on the theory of gas making, and I think that——

Mr. BURR: And a student of gas economics.

The MASTER: And I think, as Mr. Burr says, that your objection goes in the last analysis to the question of the weight to be attached to his testimony. I may be wrong in that, but at all events, your rights are reserved; you may have the objection noted, and if it should transpire hereafter that the testimony that the professor gives is going to unduly protract the case or open up side issues, or if for any other reason it is believed by you that the examination ought not to proceed further, why, of course, you may renew the objection to strike it out and reserve your right. I think we will save time by letting him proceed and answer these general questions according to the line that he and Mr. Burr have worked out, and protect-
2965 ing your rights subsequently, as may be.

Mr. MATHEWSON: I shall take an exception, if you please. And in order not to take time or embarrass the witness, may it be understood that this objection shall apply to all the testimony of this witness which deals with other than the mere statistics and figures?

Mr. BURR: Before I make any comment upon that suggestion I desire to ask the Professor one question.

By Mr. BURR:

Q. Have you had any experience in works kindred to gas works—water works, for instance?

Mr. MATHEWSON: The question whether they are kindred is another thing. Leave out "kindred."

Q. Well, have you had any experience in water works?

A. For five years and now I have been and am superintendent of the Cleveland, Ohio, Water Works.

Mr. MATHEWSON: Do I understand, then, my objection applies to not only this but subsequent testimony here?

The MASTER: Yes. It is not necessary for you to repeat the objection each time. Now you may proceed.

Q. What do you wish to take up first?

A. Very briefly I wish to refer to the purchase and handling of coal, coke and oil, &c.

Q. Have you itemized those matters in a schedule prepared by you?

A. I have. Here is the statement.

2966 By the MASTER:

Q. What is this supposed to be? A mere rearrangement of the figures contained in these exhibits, or some independent conclusion you have arrived at? And if so, what is the nature of that conclusion?

A. This is a rearrangement merely of what is in the exhibts thus far.

By Mr. BURR:

Q. All taken from the exhibits in this case?

A. Yes, sir.

Mr. BURR: And all rearranged as he thinks they should be?
The WITNESS: The statement is as follows:

TABLE 3.

Cartage and Labor of Handling.

Description.	Cost. Exhibit 93.	Cost. Exhibit 94.	Ex. 93. Cost per 1,000 ft. made.	Ex. 94. Cost per 1,000 ft. made.
Coal, cartage	$18,250 48	$18,222.89	.17c.	.17c.
Coal, labor handling	50,506.25	49,150.07	.48	.46
Coke, cartage	12,360.66	11,164.97	.12	.10
Coke, labor handling	36,694.71	35,678.39	.34	.34
Coke used, cartage	43.87	43.87		
Coke used, labor	1,473.08	1,293.31	.01	.01
Oil, cartage	17,830.15	17,123.60	.17	.16
Total cartage and labor handling	$137,159.20	$132,677.10	$1.29	$1.24

2967 By Mr. MATHEWSON:

Q. This item of handling, that refers to coal only?
A. No, as it appears, coal, coke and oil.
Q. Do you call that table three?
A. I have not specified it, but you might call it table three.
Q. And the others are tables one and two?
A. Yes.

By Mr. BURR:

Q. What interpretation do you put upon this cost?
A. It is high. It indicates either bad management, or what is more likely that some of the works are poorly situated, being separated from the water by streets, or not possessed of proper conveyors. Their Astoria plant should be operated nearly one cent cheaper per thousand feet in these respects.
Q. You say that is shown by an expenditure of $132,677.10 as shown in Exhibit 94 or 24 cents per thousand feet of gas made?
A. Yes.
Q. For the handling of coal, coke and oil at the works?
A. Yes.
Q. Entirely apart from the delivery of coke?
A. Yes. That is higher than in good works properly situated.
Q. In this case the delivery of coke is managed by a subsidiary company?
A. Yes, so that this does not include the cost of delivering coke to consumers as is the case in many companies.

Mr. MATHEWSON: Of course, I suppose the Master and counsel understand that I am objecting to this testimony under that general objection just the same.
The MASTER: Yes, I understand, it is taken subject to that objection.

Mr. MATHEWSON: I cannot think that the witness is competent to testify to these things, as he has not had practical knowledge.

2968 Q. What is the next point you wish to take up in this connection in the station costs?

A. In connection with the station costs, it is the excess of those costs over those of other gas companies affiliated with the Consolidated Gas Company doing business in the same City of New York and paying substantially the same prices for coal and oil and presumably for labor.

Q. Have you made any comparisons with other plants in the city?

A. Yes.

Q. State what results you arrived at.

By Mr. MATHEWSON:

Q. Let me ask you where you got the data with reference to these other plants? It is not in evidence in this case.

Mr. BURR: I will produce it now. He is going on to give it.

Mr. MATHEWSON: It is not in evidence in this case.

Mr. BURR: I am going to offer it in this case.

The WITNESS: It is evidence that will be in this case in a moment, I suppose.

By Mr. BURR:

Q. Between what stations have you made comparisons?

A. I first made a comparison between the water gas made at the three water gas stations of the Consolidated Gas Company, namely, the 21st, 44th and 99th Street stations.

Q. For what year?

A. For the year ending October 31st, 1905, as covered by Exhibit 93, and more particularly as covered by Exhibit 145, just put in evidence from the previous case.

Q. That is, City's Exhibit 56?

A. Or City's Exhibit 56 now, and compared that for the
2969 cost with the same period of time of the Standard and New Amsterdam companies.

Q. Where is the data for the 21st Street plant to be found?

A. That is to be found in Exhibit——

Q. City's Exhibit 56?

A. City's Exhibit 56, in the printed copy, the big volume, where it appears as Exhibit 145 before the Gas Commission, pages 2121-2124.

Q. And the data for the 44th Street plant is found in the same exhibit?

A. The same City's Exhibit 56 as it is now, and as it was in Exhibit 145 of the State Gas Commission—pages 2129-2131.

Q. And the data for the 99th Street plant is found in the same exhibit, is it not?

A. Same exhibit, City's Exhibit 56 in this case, but in Exhibit

145 of the printed testimony before the State Gas Commission it is pages 2132-2135.

Q. And the data for the Standard Gas Company is found where?

A. In Exhibit 23-A, page 1745 of the typewritten testimony before the State Gas Commission in the Standard Gas Case.

Q. Do you know who appeared for the Standard Gas Company before the State Gas Commission?

A. Mr. Mathewson.

Mr. MATHEWSON: Does that make it competent?

Q. Have you got the testimony here?

A. It was put in that bag.

Mr. MATHEWSON: You do not claim that evidence in any case in which I appeared as attorney is competent in any other case, do you?

Mr. BURR: No, but testimony was produced in that case in regard to these matters which we have the right to refer to here.

2970 The WITNESS: (Handing paper.) That is the Standard.

Mr. MATHEWSON: Can't you give us the printed pages?

Mr. BURR: I have not got it, and never had it. The only one I ever had a printed copy of was the Consolidated Gas Company. I would be very glad to have you supply me with a printed copy.

The WITNESS: There is a copy for the stenographer. I don't think I have but one other.

The MASTER: Where is this taken from?

Mr. BURR: This is one of the exhibits offered before the State Gas Commission in the matter of the inquiry in relation to the price, purity and pressure of the gas in the City of New York, in the Standard Gas Company's case.

Mr. MATHEWSON: Complaint was made before the State Gas Commission against the price charged by the Standard Gas Company a year ago and the complainants in that case offered this exhibit, which I suppose, assuming it to be and accurate transcript, was prepared by the Standard Gas Company. I don't know.

The MASTER: By whom was it prepared?

Mr. BURR: By the Standard Gas Company.

Mr. MATHEWSON: At the request of the complainants before the Gas Commission?

Mr. KIRBY: Yes.

Mr. MATHEWSON: But this, I think, is only a part of the exhibit which they prepared. It is not evidence in this case, but so far as it is valuable, I do not wish to say much on that point. But I do wish to say this, that it is utterly impossible to take companies

2971 differently situated, a company with a single plant for instance, a company which furnishes a product to a limited area, and compare it cent for cent with the Consolidated Gas Company and prove by that that the Consolidated Gas Company is either too high or too low in its cost by a cent or two. The experience is that no two companies in the same city—and it has been shown in London and everywhere else—produce their gas or can produce it for the same price.

Mr. BURR: Is this going on the record?

Mr. MATHEWSON: I am making this as an objection to the proof and calling the attention of the Master to the reasons of my objection.

The MASTER: You offer this, do you?

Mr. BURR: Yes.

The MASTER: I will take it.

Mr. MATHEWSON: Exception.

The MASTER: Do you want it marked as a separate exhibit?

Mr. BURR: No, so it may be continued into the record. Mark it Table 4.

The MASTER: That is, it goes in as his testimony, but not as part of the exhibits?

Mr. BURR: Yes.

TABLE 4.

The Standard Gas Light Company. Nominal Year Ending October 31, 1905.

	Total amount.	Cost per M made.	Cost per M sold.
Coal, 39,668.32 Tons a. $4.422	$175,408.79	.0676	
" 12,016.97 " 2. 2.836	34,086.41	.0131	
" Cartage, Labor and Handling	5,627.75	.0022	
	$215,122.95	.0829	
Less Residuals, Oil Tar for Sale, 1,268,226 gals a. .02	25,364.52	.0098	
	$189,758.43	.0731	
Coke, 101.76 Tons a. $1.492	152.21	.0001	
Gas Oil, 11,639,544 gals. a. .040903	476,100.56	.1834	
Oxide, 12,000 bu. a. .15048	1,805.81	.0007	
Shavings, 7,440 bu. a. .0119	142.81	.0001	
Water, 5,128,290 c. f. a. $1. M.	5,128.29	.0020	
Oil Waste, etc	2,353.15	.0009	
Labor, (at works)	43,313.24	.0167	
Repairs, (to works)	32,246.26	.0124	
	$751,000.76	.2894	
Less Amount billed Consolidated as per Agency Agreement	132,847.68	.2877	
	132,847.68	.2877	
	$618,153.08	.2897	
Expenses at Works	12,537.21	.0059	.0062
Holder Distribution	11,063.10	.0052	.0055
Insurance	3,863.16	.0018	.0019
	$645,616.55	.3026	.3215

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2973 Q. The data for the New Amsterdam Company is given where?

A. Exhibit 36, pages 234-236 of the typewritten testimony before the New York State Gas Commission in the New Amsterdam case.

Q. Did Mr. Matheweon appear for the New Amsterdam Company also, before the State Gas Commission?

A. Yes.

Q. These hearings in regard to the various companies were had at the same time the Consolidated Gas Co. was heard?

A. The cases ran along together; they would sometimes adjourn one case for a few days and take up another.

Q. Have you a copy of the exhibit in the New Amsterdam case to which you have referred?

A. Yes, I have it in my hand. But I only desire to put in evidence that part relating to the manufacturing costs for the present, and that is on the first three pages that I hand over, down as far as here (indicating). That will be table five.

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TABLE 5.

New Amsterdam Gas Company.

Summary of the Operations for the Nominal Year Ending October 31st, '05.

Gas Made	5,102,082,000	cu. ft.			
Less Gas made for Consolidated Gas Co. under Agency Agreement,	2,178,003,000	"			
Gas made for N. A. G. Co.	2,924,079,000	"			
Gas Sales:					
Consumers	2,660,652,800	cu. ft.	at .9984		$2,656,292.52
Public Buildings	84,913,700	"	at .90		76,422.33
Blackwell's Island Lamps	120,000	"	at 1.00		120.00
Street Lamps, N. Y.	4,725,900	"	at .7168		3,387.65
	2,750,412,400	"			$2,736,222.50
Miscellaneous Income					106,903.27
					$2,843,125.77

2975 *Operating Expenses:*

	Quantity.		Price.	Amount.	Cost per M. Made.	Cost per M. Sold.
Generator Coal	75,289[18]	tons	4.52[6]	333,395.21	.0653	.0676
(Broken)	5,075[63]	"	4.42[6]			
Boiler						
Boiler Coal (B'wheat)	9,906[12]	"	1.87[3]	43,448.50	.0085	.0088
(Coke)	1,831	"	1.40			
Coal Labor				5,079.84	.0010	.0010
Oils	23,175,882	gals.	.040023	927,577.18	.1818	.1882
Purifiers (Oxide, etc.)	5,020	bus.	.12	6,122.40	.0012	.0013
Water	8,899,776	cu. ft.	$1 M.	8,899.79	.0017	.0018
Supplies (Oil, Waste & Sundries)				2,233.79	.0004	.0005
Cartage				4,376.42	.0009	.0009
Oil Tar Labor				1,142.97	.0002	.0002
Generator House Labor				33,877.09	.0066	.0069
Boiler House Labor				18,669.06	.0037	.0038
Purifier House Labor				5,585.05	.0011	.0011
Incidental Labor				17,071.78	.0034	.0035
Superintendence				8,333.18	.0016	.0017
2976 Repairs to Buildings				8,684.10	.0017	n.0018
					.0113	
Repairs to Apparatus				57,445.89		.0117
Repairs to Tools & Implements				3,312.02	.0007	.0006
Works Expense				9,624.15	.0019	.0020
West Side Holder				8,474.94	.0017	.0017
East Side Holder				17,860.45	.0035	.0036
Insurance				12,867.00	.0024	.0026
				1,534,080.81	.3006	.3113

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Less Residuals, Tar.....	2,694,287	gals.	.02	53,885.74*	.0105*	.0109*
*Figures in red.						
				1,480,195.07	.2901	.3004
Less for Labor and Materials for a/c of Consolidated Gas Co. as per Agency Agreement.....	.....	.....	.....	608,116.29*		
				872,078.78	.2982	.3171
*Figures in red.						

IN BOOK

2977 Q. What do you claim these exhibits show, what facts do they show?

A. Those facts I have introduced in another table which I hold in my hand.

By Mr. MATHEWSON:

Q. Let me ask you, Professor, do these tables of the New Amsterdam and Standard companies cover the entire station cost?

A. Yes.

Q. Including the items of labor and cartage which you covered in Table 3 for the Consolidated Gas Co.?

A. I understood them to do so. This will be Table 6.

Q. I see the total is in for the New Amsterdam Co., but not for the Standard.

A. I see. I was going to explain that in my testimony. If I could have that volume dealing with the Standard——

Q. If you have the figures, supposing we put them in here, so the two will be exactly the same.

A. Well, we can add them, but they are not added in this volume,

Q. I think perhaps you had better give us the totals, and then you will have that to compare with the other exhibits.

(The totals appearing at the bottom of Table 4 were then inserted by the witness.)

The WITNESS: I wish to call attention to the fact that in the use that I make of the Standard table just referred to, I hold that the last three items in the second column, and for that matter, in the first column, to wit: expenses at works, holder distribution and insurance, should be added to the total a little above, which in dollars was, $751,000.76, and in cents per thousand was .2894, instead of being added as has just been done, to a figure which has been obtained by taking into account the amount billed the Consolidated Gas Company as per agency agreement. The last three should be added to this $751,000.76 instead of to that $618,153.08.

2978 In other words that should be ignored. The amount out should be ignored for the purpose I have in view, which is to find out the cost to the Standard without any refer-nce to whether it makes or loses with refer-nce to its bargain with the Consolidated Company.

By Mr. BURR:

Q. These exhibits you claim show the following facts, as appears by Tables 6 and 7?

A. Yes.

Mr. BURR: Table 6 shows as follows:

TABLE VI (6).

Consolidated Company Water Gas, October 31, 1904–5.

Station.	Feet made.	Cost.	Cost per M made.
21st Street.....	4,185,341,000	$1,341,188.50	32.04c.
44th Street.....	2,263,444,000	695,539.20	30.73c.
99th Street.....	1,401,538,000	420,938.42	30.03c.
Total & Av.....	7,850,323,000	$2,457,666.12	31.29c.

Mr. BURR: Now the Standard and New Amsterdam Companies, Oct. 31, 1904–5, by Table 7, compiled by the Professor show:

TABLE VII (7).

Standard and New Amsterdam Companies, October 31, 1904–5.

	Feet made.	Cost.	Cost per M made. (1)
Standard Co.....	2,595,111,000	$778,464.23	30.23c.
New Amsterdam Co.....	5,102,082,000	1,480,195.07	29.01c.
Total & Av.....	7,697,193,000	$2,258,659.30	29.34c.

2979 NOTE (1). In the exhibit the expense is given in four items: 1st, Manufacturing Cost; 2nd, Expense at Works; 3d, Holder Distribution, and 4th, Insurance. The figure in the table is the sum of these four items.

Q. What was the average cost of the water gas made by the Consolidated Company in its three stations?

A. 31.29 cents or 1.95 cents greater than the 29.34 cents, which was the cost of the New Amsterdam and Standard Companies.

Q. And should it have been even less?

A. It should——

Mr. MATHEWSON: Just a moment. Is not that almost leading? I think it is bad enough to——

Mr. BURR: Mr. Mathewson is the last one who should talk about leading in this case. His helpful suggestions have been——

Mr. MATHEWSON: Gratefully received by suffering witnesses, if you will let me complete the sentence.

Q. What is the difference, if any, in candle-power between the water gas stations of the Consolidated Gas Company and the stations of the New Amsterdam and Standard?

Mr. MATHEWSON: Does he know? Is there any evidence here that he knows?

Mr. BURR: I do not think it is right to interrupt him in this manner. If he does not know and you ask him if that is right, he can say whether it is or not.

The WITNESS: I will present soon a table showing the candle-power. I will say that the cost for the Consolidated Gas Company should have been about .82 cents less than the New Amsterdam and

2980 Standard, instead of nearly two cents more, for the average candle-power of the five testing stations of the Consolidated Gas Company was 22.5 during those twelve months as compared with 23.38 candle-power for the New Amsterdam and 23.73 for the Standard, as I have computed from Dr. Love's test filed in the office of Mr. Lacombe, City Engineer.

Q. What effect would that have on the cost?

A. According to Mr. Bradley's testimony, page 281, in this case and other pages near there, the Consolidated Gas Company finds one-fifth of a gallon of oil necessary for every change of a candle-power, and one-fifth of 4.08 cents, which was the average price of a gallon of oil in Exhibit 93, is .82 of a cent. Then the Consolidated Gas Company making gas of approximately one less candle-power than the New Amsterdam and Standard Companies should have made gas for .82 cents less than the cost of 29.34 of those two companies, the New Amsterdam and the Standard.

By Mr. MATHEWSON:

Q. All other things being equal?

A. Certainly.

By Mr. BURR:

Q. In other words, the cost should be 28.52 cents instead of 31.29?

A. Yes, a difference of 2.77 cents. This 2.77 cents multiplied into the total number of feet of water gas made at the three Consolidated stations, 7,850,323,000 feet is $217,453.95. (See p 3479.)

Q. Now, have you compared the coal gas cost of the Consolidated Company with any other New York plant?

A. Yes, I have taken the two coal gas plants, the 14th Street and 42d Street and compared them with the coal gas plant of the Central Union Gas Company for the same twelve months, ending October 21st, 1905. And I may add, that I selected that year instead

2981 of the calendar year 1905 covered by Exhibit 94, because there was no data available for these other companies, the New Amsterdam, Standard and Central Union, later than October 31st, 1905.

Q. And is there any data for any company except the Consolidated Gas Company doing business in New York except for the——

A. No, that is right, except for the twelve months ending October 31st, 1905. That was all the testimony in evidence.

Q. Where do you get the data for the 14th Street Station?

A. That was given in this new exhibit, City's Exhibit 56, which was known in the State Gas Commission testimony as Exhibit 145, pages 2117 through to 2120 of the printed testimony.

Q. And for the 42d Street Station?

A. And for the 42d Street Station also in the new City Exhibit 56, but formerly in Exhibit 145 of the State Gas Commission testimony, pages 2125 through 2128.

Q. Where do you get the data for the Central Union?

A. That is given in Exhibit 20 of the typewritten testimony of the Central Union Gas Company.

Q. Before the Gas Commission?

A. Before the Gas Commission.

Q. Did Mr. Mathewson appear for that company?
A. Yes. And in this case likewise I wish only to copy the——

By Mr. MATHEWSON:

Q. Just a moment. In your water gas stations did you take more than the two water gas stations of the Consolidated Gas Company?
A. The three water gas stations of the Consolidated Gas Company.
Q. All of the water gas stations?
A. Yes. And all of the coal gas stations for the other companies. Now, for the Central Union I ask to have put in evidence page 96, being the full exhibit for coal gas.

2982 Mr. MATHEWSON: I have an objection to make to this Central Union statement. It does not seem to me that it is going to be profitable to go into the Central Union case, whether it is in the others or not. The Central Union operates in The Bronx, and its gas is a mixture of coal and water gas. The witness is taking the coal gas stations here in Manhattan and comparing the cost of coal gas as he takes it in The Bronx, which is enriched there by a mixture of water gas, whereas ours is enriched by oil gas and the candle-power maintained there according to the testimony, for a large part of this period, was below that required by law, and it does not seem to me that any comparison of this sort even with the allowance that the Professor will reason are proper, is a profitable comparison when you come to the cost of coal gas to the Consolidated Gas Company. There is a coal gas company, a company manufacturing coal gas in the Borough of Manhattan, which is the Mutual Gas Light Company, and I do not know how the comparison of their cost of coal gas shows up with the cost to the Consolidated Company of its coal gas, but it would seem to me if we are going into this it would be a great deal more profitable to take the Mutual Gas Light Company rather than a comparison of the kind which the witness is about to make.

Mr. BURR: I am never very much impressed by the Greek bearing gifts, and the suggestion of the other side to take one company when I have taken another does not accord with my view of the situation. I think it of the utmost importance, on the contrary, to have the Master understand the situation as it exists in the Central Union Gas Company, and if we do not, from this comparison and reason-
2983 ing by analogy and comparison of figures, make out what we claim we can make out and have assumed we could make out, why, that is all a matter which you may address to the Master in your cross-examination and in your argument; but I think we should be permitted to have the oportunity to put it in.

The MASTER: I will take it.

Mr. MATHEWSON: Exception.

The WITNESS: May I be permitted to say that as to the Mutual which has been mentioned here, I have been through all the testimony in the Mutual case——

The MASTER: Never mind about that.

Q. Have you tabulated the cost of the Central Union with the 42d and the 14th Street stations?
A. Yes.
Q. What is the difference in the cost between the stations?

A. The Central Union has a cost of 19.64 per thousand feet of gas made, the 42d Street station 34.77 and the 14th Street, 37.77, so that the 44th Street station has a cost of 15 cents higher and the 14th Street station a cost of 18 cents higher, approximately.

Q. Have you got a copy of that tabulation?

A. Yes.

TABLE VIII. (8.)

Coal Gas.

Central Union—42nd St.—14th St.

Comparative cost in the holder of coal gas at the Central Union plant and at 14th and 42nd streets for the twelve months ending October 31, 1905, as compiled from Exhibit 20 of the Central
2984 Union Gas Company's testimony before the State Gas Commission (page 96) and Exhibit 145 (pages 2117–2120 and 2125–2128), printed copy in case of the Consolidated Company before the State Gas Commission.

	Central Union.	42nd.	14th.
Coal	30.95c.	27.12c.	26.86c.
Cartage and Labor	3.48	1.55	2.14
	34.43	28.67	29.00
Residuals	29.06	17.03	14.58
	5.37	11.54	14.42
Oil	1.27	6.54	9.00
Coke	.39		
Lime	.....	23	
Oxide	.23	.22	.25
Water	.35	.24	.25
Oil, Waste, &c	.52	.06	.15
Cartage	.....	.03	.17
Labor	5.89	11.52	(1) 7.65
Repairs	4.88	2.64	3.79
Gas bt	.06		
Expense at Works	.40	.92	.69
Distribution	.28	.70	1.33
	19.64	34.74	37.70
Depreciation	.....	.03	.03
Gas made 670,518,000	19.64	34.71	37.67
Cost aside from repairs	14.76	32.13	33.94
Less oil as above	1.27	6.54	9.00
	13.49	25.59	24.94

(1) Includes 0.63c labor ($9,603.51) at 21st St. There was also spent at 21st St. on behalf of 14th St. coal $48.25 and coke $7.90.

2985 Q. What is some of the difference due to?

A. Due to the large amount of oil used by the two Consolidated Company's plants, in order, as claimed, to produce a higher candle-power. Repairs are also somewhat different in the three stations, although in that respect, more was spent upon repairs at the Central Union station than at the 14th or 42d Street stations.

Q. What did you do to make as fair a comparison as possible, and what is the result?

A. I deducted the expense for oil and repairs at the three stations so as to find out the net cost aside entirely from the enriching, and I found the net cost, as given at the bottom of Table 8, was 13.49 cents for the Central Union, 25.59 cents for the 42d Street station and 24.98 cents for the 14th Street station.

By Mr. MATHEWSON:

Q. You deducted oil and repairs in each case, did you?

A. Yes, so as to find what the cost would be with those items eliminated.

By Mr. BURR:

Q. What is the total result if the cost at the two coal gas station- is united?

A. If the two coal gas stations of the Consolidated Gas Company be treated as one, then their output was 2,809,586,000 feet and the average cost aside from oil and repairs was 25.26 cents or 11.77 cents more per thousand feet than the cost aside from oil and repairs at the Central Union Station.

Q. Can any of this difference, in your opinion, be accounted for by the difference in the price of coke, and if so, how much?

A. Only 1.01 cent. The price of coke is not given directly in the exhibit in the Central Union Gas case, but it is there stated that the value of the coke, 23,155,050 pounds, or, dividing by 2,000
2986 pounds, 11,577.5 tons, used in making 925,892,000 feet of water gas, was $37,381.56.

Q. What does that mean?

A. That means $3.23 per ton of coke. Now, I got that from the exhibit in the Central Union case relative to water gas which adjoined the exhibit relative to coal gas, that one figure on coke.

By Mr. MATHEWSON:

Q. Was that coke which came from the coal gas station to the water gas station?

A. Presumably.

Q. $3.20?

A. $3.23 per ton.

By Mr. BURR:

Q. What was the price obtained for coke at the 14th Street Station?

A. Right here I will stop to put in a table which will give this in better form:

TABLE 9.

Price of Coke, October 31, 1904–5.

Stations.	Difference in cost of coke per T.	Tons of coke sold.	Total am't of said difference.
14th Street.....	15c.	57,844.06	$8,676.61
42d Street	33c.	56,932.93	18,787.87
Total.....	.....	.....	$27,464.48

The WITNESS: Well, as I was starting to say, the price obtained for coke at 14th Street was 3.08 cents and at 42d Street 2.90 cents. Multiplying the 15 cents difference at 14th Street by the amount of coke sold and multiplying the 33 cents difference in coke at 42d Street by the amount of coke for sale, that gives a total of
2987 $27,464.48 as the increased receipts from coke that would have been obtained at the 14th Street and 42d Street stations had the price been equal to that obtained by the Central Union Company.

Q. What does this total mean?

A. This only means a difference of 1.01 cents per thousand feet distributed over the 2,809,586,000 feet made by the 14th and 42d Street stations.

Q. Is it certain that there is any difference in the price of coke?

A. No, there is no certainty that there is any difference at all. Possibly the Central Union returned the price of coke as that obtained on delivery to the consumer instead of at the works, as in the case of the Consolidated Gas Company, although I think that it is not certain in this case, since it was coke used in making water gas; but that is simply a possibility. If that be the case, and the large charge for cartage by the Central Union might seem to bear this out, then there would be practically no difference at the works in the price of coke between the Consolidated Company and the Central Union. In other words, the price of coke at the Consolidated Company's plant which appears to be a little lower, making a difference of one cent per thousand feet may be due to the fact that their prices are quoted as the sales to the National Coal & Coke Company, while if they were selling to the consumer their price might not be any different than at the Central Union plant. Yet, on the other hand, the particular coke used in this table of the Central Union Company was used right at the station for the water gas and did not require any more cartage than the coke delivered by the Consolidated Gas Company to the National Coal & Coke Company; so I do not put any stress on that, but it is only this difference of a cent anyway in the coke item, so that does not make—there is over eleven cents difference between the two stations of the Consolidated and the
2988 Central Union after eliminating all questions of oil and repairs, and the coke item does not take up more than one cent of that eleven cents.

By Mr. MATHEWSON:

Q. Let me ask a question. Instead of this Table 9 being price of coke October 31st 1904-5, it should be the difference between the price of coke which you have computed for the Central Union and the cost of coke in these two Consolidated Gas Company's stations?

A. Yes, the difference in the price of coke obtained by the Consolidated Gas Company and the cost of coke at the Central Union water gas plant, as given in the table.

By Mr. BURR:

Q. And this table you refer to is Table 9?

A. Yes. I would state that it might be better to introduce in evidence the statement that the figures on coke sold or used by the Central Union in making its water gas is obtained from the same exhibit which has been put in evidence, Exhibit 20, before the Gas Commission, in the Central Union case, with respect to coal gas made at its coal gas stations. But it appears in another portion of the exhibit which was not introduced into evidence directly a few minutes ago.

Q. And the figures there given are what?

A. The figures here given are in the water gas stations, coke used 23,155,050 pounds, $37,381.56.

By Mr. MATHEWSON:

Q. And the result of the division is $3.23?

A. Per ton, that is the way I made it.

Q. Long ton or short ton?

A. Short ton, 2,000 pounds.

2989 By Mr. BURR:

Q. What reasons are there for the difference in your opinion, between the cost of the Central Union and the two coal gas stations of the Consolidated Gas Company?

A. Table 8 which has been introduced, shows that it consists mostly of two items, the labor cost and the residuals. The labor cost at the Central Union is 5.63 cents less than at 42d Street and 1.77 cents less than at 14th Street. Just what it is in the residuals that accounts for the great difference in receipts appear because the exhibit of the Central Union Company does not analyze the residuals as do the various exhibits which have been introduced in evidence as Exhibit 56 in this case for the Consolidated Gas Company.

Q. Now, you have stated that after making due allowance for repairs and oil the Central Union Company produces coal gas at 11.77 cents per thousand cubic feet cheaper than the 14th Street and 42d Street stations?

A. Yes.

Mr. MATHEWSON: Does that take out the one cent difference for coke?

The WITNESS: No, because it was not clear that it should be taken out.

Q. What would be the total saving in dollars to the Consolidated Gas Company if it made its coal gas as cheap as the Central Union?

A. This 11.77 cents difference multiplied into the coal gas of the two Consolidated Gas Company's stations, namely, 2,809,586,060 feet is $330,687.27, which is——

Q. Does that in your opinion represent excessive cost by the Consolidated Gas Company?

A. Excessive cost by the Consolidated Gas Company. The addition of this to the excessive cost of water gas made by the Consolidated Gas Company over the cost at the Standard and New
2990 Amsterdam plants, makes a total of excessive cost of $532,-440.57, or five cents per thousand feet of the gas made by the Consolidated Gas Company which was 10,657,810,000 feet.

Q. In other words, the cost to the Consolidated Gas Company for all of its gas instead of 32.68——

A. Should have been 27.68, had the company done as well as its neighbors in the City.

By Mr. MATHEWSON:

Q. Had you not better modify it, perhaps, by saying had it done as well as the Central Union and the other companies you have mentioned, because there are other companies here?

A. Yes, some of its neighbors then.

Q. Yes, those which you have compared?

A. Yes.

By Mr. BURR:

Q. Now, how does the price of oil compare in New York with other places?

A. It is higher than in Eastern Massachusetts——

Q. And it appears in the testimony in this case?

A. Yes. I have the Boston Gas Company here——

Q. What do they pay here——

A. The Boston Company during the twelve months ending June 30, 1906, used only——

Mr. MATHEWSON: Had you not better take the same period that you are comparing with in the other cases?

The WITNESS: I would state that the exhibit is for the year ending October 31, 1905. The evidence given is that for the year ending December 31st, 1905, and for the time since them, oil was still higher, that a contract was entered into, to take effect the 1st of No-
2991 vember, 1905, by which the price of oil was largely increased, so that the only comparison I can get from Massachusetts is the comparison just filed under oath with the Massachusetts State Gas Commission for the twelve months ending June 30, 1906, and during that period the Consolidated Gas Company's price was considerably higher than the price I am referring to here, so there is no injustice being done to the Consolidated Gas Company in any comparison I am making here.

Q. Well, I think there is, but no matter about that.

By Mr. BURR:

Q. What degree of oil was used at the time you speak of?

A. The Boston Gas Company used nothing but 34 degree oil.

Q. Beaume test?

A. Beaume test, and it paid only 4.01 cents therefor.

Mr. MATHEWSON: That is for the year ending when?

The WITNESS: Lowell used oil of 29 degree test and paid only 3.13 cents therefor. Lynn used 28 degree oil gravity test and paid only 3 cents a gallon.

Q. Now, if Boston had used 50 per cent. of each kind of oil, as the testimony is here that the Consolidated Gas Company has the right to do under its new contract, how much would it have paid?

A. Only 3½ cents per gallon as contrasted with an average of 4.23 cents paid by the Consolidated Gas Company in the calendar year 1905, as given in Exhibit 94.

Mr. MATHEWSON: Has a right to do. It has to use oil to produce its candle-power, and it has a right to call for certain quantities of oil.

Q. Has New York any advantage over Boston in the use
2992 of oil in your opinion, and to your knowledge?

A. I think it has three advantages. If Boston got 34 degree gravity for 4 cents, and Lynn got 28 degree gravity for 3 cents, New York should have gotten oil for less than the average of the two or 3½ cents.

Q. What are these advantages you refer to that New York possesses over Boston?

A. First, during the calendar year 1905, about five-sixths of the oil used by New York was cheaper, or 22 degree gravity oil.

Q. 28 degree, was it not?

A. 28 degree I meant to say. I am not aware that complete figures were ever given on this point, but of the 82,061,124 gallons of oil delivered from September 28, 1904, to October 31, 1905, according to pages 1628 and 1735 in the testimony in this case, only 7,257,-982 gallons were of 34 degree gravity.

Q. How much of the oil in New York in 1905 was 34 degree gravity?

A. Less than 9 per cent. was of the higher gravity. During the twelve months ending October 31st, even if the two last months 50 per cent. was 34 degrees gravity, which is not testified to as true, although the company might under its contract have had that amount of the higher gravity, then the total of the better oil during the year could hardly have exceeded one-sixth of all the oil used. On that basis of five-sixths at 3 cents and one-sixth at 4 cents, the Massachusetts price, the average for the whole year should have been only 3 1-6 cents instead of 4.23 cents, even on the Boston price——

Mr. MATHEWSON: For what period?

The WITNESS: For the calendar year 1905 or for the year ending June 30, 1906, either one. It would be more strictly true for
2993 the year ending June 30, 1906, but according to the testimony in this case the Consolidated Gas Company's cost is more than

4.23 for the year ending June 30, 1906. It was 4.23 cents for the calendar year 1903, and is rising under their contract all the time, they claim.

Q. Has New York any advantage in location over Boston?

A. It certainly has an advantage in that it is nearer both the Pennsylvania and the Texas oil fields, whether by rail, water or pipe line, than Boston. It has a third advantage. It appears that some of the directors of the Consolidated Gas Company are also directors of the Standard Oil Company, which furnishes the oil——

Mr. MATHEWSON: I move to strike that out.

The MASTER: Strike it out.

Mr. BURR: I except.

Q. Is it in your opinion necessary for the Consolidated Gas Company to use more of the 34 degree gravity oil than the 9 per cent. actually used October 31st, 1904-5 for the production of 22.5 candle-power gas?

A. No, that is, since 22.5 candle-power was produced with the use of only 9 per cent. of 34 degree gravity oil, it seems as if it was not necessary to use more.

Q. Upon what do you base this? What reasons are there for this opinion?

A. Well, the reason for this conclusion is not only that the candle-power of the Consolidated Company averaged—well, it averaged 22 during the twelve months ending October 31st—I don't know whether it is 22 or 21½, I have one here 22 and the other 22½—I think it is 22½ during the twelve months ending October 31, 1905, when it used only 9 per cent. of the higher grade oil, but more conclusive is the fact—yes, it is 22½, I remember now. But more conclusive is the fact that the New Amsterdam Company during
2994 the same twelve months had an average candle-power, according to Mr. Love's test, of 23.38, and the Standard Company had an average of 23.73 candle-power on the same oil contract that was abrogated by the Consolidated on the ground that under it 22 candle-power could not be maintained.

Q. Did the New Amsterdam Company or the Standard Company fall below 22 candle-power during any month?

A. There wasn't a single month in the year ending October 31, 1905, in which the New Amsterdam Company fell below 22 candle-power in the average of its monthly tests, save in April, when it was 21.61. The Standard Company did not fall below 22 during any month, and during only two months was it below 22½, and only three mont-s below 23 candle-power, according to Dr. Love's test.

Q. Was there any necessity, therefore, in your opinion, for canceling the oil contract of 1905?

Mr. MATHEWSON: That is the conclusion.

The MASTER: That is a matter of argument entirely.

Q. Well, are you familiar with the testimony here with regard to the oil contract?

A. Yes. Now I have the average of the monthly tests of candle-power, which might be put in as Table 10, which is as follows:

2995 TABLE 10.

Average Monthly Test of Candle-power.

By Dr. Love, City Tester.

	New Amsterdam Co. Candle-power.	Standard Co. Candle-power.
November, 1904	22.23	22.31
December, "	22.93	22.85
January, 1905	22.73	22.00
February, "	22.51	23.57
March, "	22.18	23.05
April, "	21.61	23.00
May, "	23.10	23.55
June, "	23.21	23.97
July, "	25.61	25.79
August, "	25.46	25.47
September, "	24.78	24.63
October, "	24.22	24.60
	23.38	23.73

Q. By that table it appears?

A. It appears as I just was testifying that in the New Amsterdam Company on the same contract for oil which was abrogated in October, 1905, the New Amsterdam Company maintained more than 22 candle-power every month except April, 1905; and the Standard Company maintained 22 candle-power or more every month; and that the average of the New Amsterdam Company was 23.38 candle-power and that the average of the Standard Company was 23.73 candle-power.

Q. If oil in New York during the calendar year of 1905 had been one-half of 34 degree test and one-half of 28 degree test, what would have been its cost at the price prevailing in Eastern Massachusetts?

2996 Mr. MATHEWSON: He has testified to that, hasn't he?

A. It would have been 3½ cents.

Q. What is the difference between that price and the price actually paid in New York, according to Exhibit 94, and how much does it amount to per thousand cubic feet of gas made?

A. The difference between 3½ and 4.23, according to Exhibit 94 is 73 cents. This multiplied into 10,675,810,000 feet of gas made by the Consolidated Company, according to Exhibit 94, will give $305,699.69, which represents the minimum estimate of the excess cost of oil in New York for the gas made by the Consolidated Company, but it assumes the use of half of each grade of oil, while there was not half of each grade of oil, 34 to 28 gravity used during that year. This is equivalent to 2.87 per thousand feet of all the gas made, that is both coal and water gas. If this saving in oil be added

to the excess cost of the consolidated above the New Amsterdam, Standard and Central Union Companies there is a total unnecessary excess cost to the Consolidated of 7.87 per thousand feet of gas made or $838,140.26. This is 6 per cent. on $13,969,000.

By Mr. MATHEWSON:

Q. Did you take the total amount of gas made or the total amount of gas sold?

A. The gas made, I think it is, in all this case right through. In discussing station costs up to the present time I applied it equally to gas made in all stations alike.

At 1 P. M. a recess is declared to 2:15 p. m.

2997 After Recess.

EDWARD W. BEMIS resumes the stand.

Direct-examination (continued):

By Mr. BURR:

Q. Professor, in the computations you have made in the various tables presented and introduced this morning, referring to those, were they based on the amount of gas sold, or the amount of gas made?

A. On the gas made, in all cases.

Q. Now we left off on the oil situation. How will the proposed transfer to Astoria probably affect the situation?

The MASTER: That is a little vague, is it not, Mr. Burr?

Mr. BURR: It would be, if alone, but in connection with what has gone before I do not think it is.

Mr. MATHEWSON: I suppose my objection covers this. This is rather a new departure?

The MASTER: I think so.

A. If it be argued that it is impossible to do as well as the Standard, the New Amsterdam and the Central Union Companies, as long as the somewhat inferior coal gas works at 14th and 42d Streets are used—inferior either in location or in character——

Q. Construction?

A. Construction. And there has been some testimony on both points, and if it is claimed that as long as a large percentage of water gas is used the Company is at the mercy of the Standard Oil Company, then the expected completion of the first two units of 40,000,000 cubic feet daily capacity of an up-to-date coal gas works at Astoria should involve economies sufficient to pay six per
2998 cent. on the entire investment and enable the abandonment of the 14th and 42d Street stations, as far as manufacturing is concerned, and render unnecessary more than half as much oil per thousand feet as required in the water gas. That is, to the extent to which they can substitute enriched coal gas for water gas, they will save nearly half the number of gallons of oil, because only about half as many gallons of oil per thousand feet of 22 candle-power

coal gas is required as for 22 candle-power water gas, according to the data of their own exhibits in this case. That is, the 14th and 42d Street plants as compared with the three water gas stations.

Q. Now what would the saving of 7.87 cents that you mentioned this morning in the cost for 1905 result in?

A. It would reduce the total cost from 32.42 cents on the gas made to 24.55 cents per thousand feet on the gas made.

By Mr. MATHEWSON:

Q. After how much is taken off?

A. 7.87 cents, which was the morning testimony.

By Mr. BURR:

Q. Now, if oil were obtained at 3.05 cents per gallon instead of 4.09 paid on the average by the Standard Company during the twelve months ending October 31st, 1905, or 4 cents as paid by the New Amsterdam Company during the same period, what would be the saving, if any.

Mr. MATHEWSON: For the Standard and the New Amsterdam?

Mr. BURR: Paid by the New Amsterdam.

Mr. MATHEWSON: I do not quite understand this. Has not the witness figured on what he claims would be a smaller amount of oil and at a smaller price in reaching his 7.87 cents?

2999 By Mr. MATHEWSON:

Q. That is all included there, isn't it, in the 7.87 cents saving, Professor?

A. That was only on the ten billion odd feet of gas made. I am now going to consider that they would have obtained cheaper the 2,929,210,000 feet that they got under the Agency Agreement.

Q. If the Standard and the New Amsterdam Companies had manufactured their gas cheaper?

A. Had secured all at 3½ cents instead of 4 cents or 4.09, because the same contract applied on oil to both the New Amsterdam and the Standard and the Consolidated.

Mr. BURR: That is the testimony here.

The WITNESS: And the Agency Agreement called for a price by the Consolidated based on the operating cost, plus 10 per cent., at the station, and if those operating costs were reduced by the Standard and the New Amsterdam by virtue of a lower price for oil than under the contracts that are in evidence that would have resulted in a lower price under the Agency Agreement to the Consolidated for gas.

By Mr. BURR:

Q. As a matter of fact there would have been a saving of about 2.4 cents per thousand feet in all.

A. Yes, sir, in the companies with which the Consolidated has an Agency Agreement. In fact there would have been a slightly higher amount than that as subsequently discovered, because I found in the exhibit of the Mutual, which has not been put in evidence in this

case, that they were paying and did pay in the year given in Exhibit 31 of the testimony before the State Gas Commission, they were paying 4.495 cents per gallon for oil during the same period, ending October 31st, 1905, in which the Consolidated was paying
3000 about 4.08 cents, and the New Amsterdam 4 cents.

By Mr. MATHEWSON:

Q. Then the Mutual was paying more than the Consolidated or other companies?

A. Yes, sir.

Q. Because they make their contracts independently instead of through the Consolidated, as the testimony shows, I suppose?

A. Yes.

By Mr. BURR:

Q. This 2.4 multiplied by the number of feet of gas obtained from these companies, 2,929,210,000 would mean a net saving in the cost of manufacture to those companies, the New Amsterdam, Mutual, Standard and Central Union of how much?

A. $70,301.04.

Q. And that benefit under the Agency Agreement would go to whom?

A. To the Consolidated Gas Company.

Q. What would the total saving be as obtained by adding this last amount to the $838,140.26 just mentioned?

A. That is the amount mentioned this morning as the saving in the other phases of the case, making $908,441.30. This is 6.69 cents per thousand feet on all the gas made or bought under the agency agreement, and would reduce the cost from 32.77 cents per thousand feet of gas in the holder to 26.08 cents per thousand feet of gas sold, which would reduce the cost from 33.52 cents to 26.68 cents.

Q. That would be six per cent. on how much?

A. On over fifteen million dollars.

Q. On the basis of the consumption of 1905?

A. On the basis of the consumption of 1905.

Q. Now it is in evidence here that the price of coke was
3001 slightly raised in 1905. What was the result of that?

A. That, according to the testimony in this case (pages 644-5) testimony by Mr. Carter, would naturally result in a little more from residuals, therefore to that extent a reduction in the cost of the gas; but it would only be solely for that in the period covered by Exhibit 94, because it only went into effect October 13, 1905.

Q. Now, regarding the inferiority in construction and the location of the 14th and 42d Street coal gas stations, to which you have referred, have you in mind any testimony bearing on that subject?

A. Yes.

Q. Will you be good enough to refer to it.

A. The engineer of the Consolidated, Mr. George E. Wood, in direct charge of all the stations, as stated on page 93 of the printed testimony before the State Gas Commission.

Mr. MATHEWSON: Wouldn't it accomplish all purposes to offer it, instead of having it characterized?

Mr. BURR: Just read it, so there will not be any mistake about it.

The WITNESS: I read from page 93, on the examination of Mr. George E. Wood:

"Q. What is your occupation? A. Engineer of manufactories of the Consolidated Gas Companies.

Q. You have direct charge of the various stations at which gas is produced in the City of New York of the Consolidated Gas Company? A. I have.

Q. They are all under your immediate direction and supervision? A. Yes, sir.

Q. Will you state the stations and their location? A. 14th Street Station, 14th Street and East River; 21st Street Station, at
3002 21st Street and East River; 42d Street Station, at 42d Street and North River; 44th Street, at 44th Street and North River; 99th Street, at 99th Street and the river."

The MASTER: All that is in evidence somewhere or other. What is the use of taking time to do this, stating where the different stations are?

The WITNESS: Yes. I did not need to read those except to show he was in charge of those? Then on page 127, 128 and 129 of the printed testimony before the State Gas Commission, he was being asked about the cheaper gas of the Central Union Gas Company as compared with the Consolidated.

Q. That is the Central Union Company's plants as compared with the Consolidated Company's plants?

A. Yes, sir; and the question was (page 127):

"Q. Have you investigated in any way to see how they can produce gas at that price while it costs your Company apparently so much more? A. Yes, there are reasons for it.

Q. Did you make any investigation at that time? A. No, I did not investigate, I thought I knew the conditions that existed.

Q. What are those conditions? A. Well, they were getting a better price for their coke than we were able to get downtown, I think; the type of their apparatus—I think.

Q. You say I think, do you know? A. No.

Q. Do you know what your Company was getting for coke? A. No, I do not, only I know——

Q. Then, as to the next reason? A. The type of their apparatus is different and is more up-to-date than what we have at our coal gas stations down here on Manhattan Island; they have inclined
3003 retorts and we have the old fashioned horizontal that are small, they require a great deal of labor, and the use of a great deal more coke under the benches to keep them going than the type of furnace that they have in The Bronx.

Q. Then you think there is a very material saving in the case of the retorts, between the horizontal and the inclined furnace or retort? A. I think there is some difference, just how much I am not prepared to say.

Q. In the new works at Astoria that your Company are having installed there, they are to use the inclined retorts? A. They have inclined and horizontal over there, I believe."

Mr. MATHEWSON: It already appears we have both kinds and we don't know which are the best.

The WITNESS: Then a little later he states:

"There was one other thing, they were able to handle their coal more cheaply there; at the 14th Street station it cost us more money to get it into the retort house than it did cost them; there were little odds and ends that made up the difference."

Q. I understood Mr. Mathewson to testify a moment ago that they did not know which to use. Is that right, Mr. Mathewson, what you just got on the record?

Mr. MATHEWSON: I say it is the evidence that we are putting in both kinds at Astoria, and we don't know which will prove the most satisfactory; so it is testified by the engineers.

Mr. KIRBY: Not the same kind of retort that you have in your 14th Street plant?

Mr. MATHEWSON: That is another proposition.

3004 The WITNESS: This witness called them "the old fashioned horizontal that are small."

Mr. MATHEWSON: I understand it is simply stating as between horizontal and inclined. He was asked then whether they had horizontal or inclined retorts at Astoria. He said he thought they had both. He was not asked whether they had old fashioned ones at Astoria. Of course not.

Mr. BURR: I think that is all with Mr. Wood's testimony for the present.

Q. Taking up the station distribution and general cost as the same appeared in Exhibit 94, what was the total operating cost given in Exhibit 94 and how much did you deduct on the ground of fixed charges and interest on consumers' deposits?

A. The Consolidated Company in Exhibit 94, as was stated this morning, presents what it calls "total operating cost" as 74.81 cents, but from this I have already deducted fixed charges of 7.32 cents and interest on consumers' deposits of .39 cents, or a total of 7.71 cents as being in the nature of capital charges and not of operating expenses.

Q. How much did this leave. How was it divided between station cost on one hand and distribution and general expenses on the other?

A. Deduction of this 7.71 from 74.81 in Exhibit 94 leaves 67.10 cents. In this amount 33.52 cents, as already stated, is given by the company as production or station cost, and the remainder is 33.58 cents, which they divide into distribution and general expenses.

Q. Have you anything to say with regard to the items which make up this sum?

A. Yes.

Q. Please state.

A. Well, there should be deducted, miscellaneous income, which President Humphreys summarized as follows (page 1944)——

3005 By Mr. MATHEWSON:

Q. Do you understand that Exhibit 94 is a statement of expenditures and not of receipts?

A. Yes. But just as we deduct the receipts from the residuals in getting the cost of gas in the holder, I think it is appropriate to deduct—although I am aware that they do not do it in the Massachusetts returns—but I think it appropriate to deduct other receipts not connected with the sale of gas from expenses of distribution, following the same analogy in residuals as in the case of gas in the holder.

Q. What have you to say as to item "miscellaneous income"?

A. I have a table here giving those items. It will be table No. 11. I have it entitled, "Miscellaneous Income," and it is as follows:

Miscellaneous Income.

Stove rentals	$122,322.60
Discounts	9,497.57
Real Estate rentals	37,408.88
Sundries	3,481.48
Dividends of Natl. Coal & Coke Co	5,000.00
Total	$177,710.53

Q. That you claim should be deducted?

A. Yes.

Q. What is that equivalent to?

A. That is equivalent to 1.34 cent. per thousand feet of gas sold.

Q. Why should that be deducted for the cost of gas?

A. Well, for the same reason as we deduct the receipts from residuals from the cost of coal or oil in finding the net manufacturing or station cost.

Q. If these miscellaneous receipts are not deducted from the operating cost what would result?

3006 A. Then, of course, they must be added to the receipts from the sale of gas. The results so far as profits are concerned, are precisely the same in either case, but it is much simpler to start with placing in receipts only the money received from the sale of gas and to deduct all other receipts, whether from residuals, or stoves or real estate rentals, and so forth, from the operating expenses.

Q. Is there still another deduction to be made, in your opinion, in the matter of street lamp expenses?

A. Yes, I think they should be deducted. They are given in Exhibit 94 as $289,259.09 or 2.18 cents per thousand feet of gas sold. Nominally this is all recovered from the City in special charges for care of street lamps, but Mr. Addicks claims that 3.75 feet of gas is used per hour in the Welsbachs instead of 3 feet, as nominally charged, so that after allowing 90 cents per thousand feet for gas so used there is left over $260,614.26 for maintenances and other lamp expenses, as compared with an actual expense for the work of $289,259.59. That is, Mr. Addicks (page 1908 of the testimony in this case) claimed a net loss of $28,645.33. This, however, which seems

to be the maximum claim of the company, is only .22 of a cent instead of the gross expense of 2.18 cents given in Exhibit 94.

Q. How much does this amount to per thousand feet of gas?

A. That is .22 of a cent. So I do not deduct the whole 2.18, but I take the difference between that and .22. In other words, the company gets back 1.96 cents for lamp expenses, as well as 1.34 cents on account of miscellaneous income. This makes a total recovered by the company of 3.3 cents from the distribution and general expenses.

Q. That is to be deducted from the distribution and general expenses?

A. Which they give—they give the gross distribution and general expenses as 33.58 cents, and this miscellaneous income and
3007 net receipts on, or, recovery of expense on lamps which they admit in the testimony, reduces the distribution and general expenses to 30.28 cents.

Q. How much of this latter amount is represented by taxes, according to the exhibit?

A. In this Exhibit 94 it is given as 7.27 cents, and I notice that Mr. Addicks (page 1757) deducts .48 of a cent for taxes paid on account of other companies, and Professor Marks (page 2302) deducts 1.66. He excludes four items. At least three of these it seems to me should be deducted. The fourth I have not had time to investigate, so I only deduct the three. I have a table for that, which is No. 12, which is headed, "Deductions from Tax Returns," which is as follows:

Deductions from Tax Returns.

Taxes on income from other companies' securities.....	$5,257.48
Taxes on dividends in excess of 4 per cent. on $38,643,590.14, Stock, invested in other companies.....	57,965.39
Interest on unpaid taxes.....	94,506.29
Total	$157,729.16

Q. How much does this amount to per thousand feet of gas sold?

A. 1.19 cents. Whether any of the other taxes should be omitted, I was not in a position to determine, but the investigation by the accountants would give clearer light on that and many of these other items. I am taking the face of the returns here.

Q. You understand some of the taxes are in litigation?

A. Yes.

Q. Now, deducting 1.19 from the previous figure of 30.28 leaves how much for distribution and general expenses, according
3008 to the claims of the company?

A. 29.09.

Q. For what?

A. That would be the cost of distribution and general expenses, with the above corrections.

Q. According to the claims of the company?

A. Yes, starting with the claims of the company.

By Mr. MATHEWSON:

Q. Starting with the exhibit in evidence?

A. Starting with the exhibit in evidence and deducting the receipts from miscellaneous income and the——

By Mr. BURR:

Q. Payments by the city for——

A. And the corrections on taxes, and the street lamp expenses—the receipts for maintenance of street lamps.

Q. And the reduction of taxes not directly charged to gas?

A. Yes.

Q. Now, may this 29.11 be divided into four items of taxes, repairs, contingent expenses including renewals, and other distribution and general expenses, and if so, give the percentage of each?

A. Well, I have divided into four items, taxes, 6.08; repairs, 3.56; contingent and renewal expenses, 5.31——

By Mr. MATHEWSON:

Q. What do you mean by contingent; do you mean to say any part of that is contingent?

A. I call it that item because that was the name used in Exhibit 94.

Q. But that included an actual contingent as well as expenditure?

A. Yes.

Q. Well, which is this?

A. This is [illegible]ir expenses for renewals and contingent expense not included in repairs, 5.31. And other expenses, such as management, salaries, collection of bills and all other distribution and gen-
3009 eral expenses aside from those already mentioned, 7 cents, an item which the company gives as 9.45 cents. I will give you a table on that, as follows:

TABLE 13.

EXHIBIT 94 AND CORRECTION OF SAME.

		Operating cost according to Exhibit 94.	Operating cost according to Bemis' preliminary estimate per 1000 ft. sold.
Station		33.52c.	26.68c.
Repairs on Distribution System		3.56	3.56
Taxes		7.27	6.08
Contingent and Renewals		10.00	5.31
Other Expenses, aside from excluded items		9.45	7.00
		63.80c.	48.63c.
On basis of Station Cost Claimed by Company		.....	55.47c.
Excluded items:			
Lamps	1.96c.		
Miscellaneous Income	1.34		
Fixed Charges	7.32		
Interest	0.39	— 11.01c.	
		74.81c.	

On the basis of other expenses as given by the company, to wit, 9.45 cents instead of 7 cents equals 57.92 cents.

By Mr. BURR:

Q. You refer in giving these items to the table headed "Exhibit 94 and Correction of Same."

3010 A. Yes, the table I have just handed in, No. 13. The first column of Table 13 is merely a rearrangement of what the Company itself gives in Exhibit 94, giving the same total, 74.81, and the same items, only they are in many cases put together. Now Mr. Mathewson has asked me with regard to the 9.45 cents which appears in the fifth line. Now that as stated there is "Other Expenses, aside from Excluded Items," such excluded items being those that follow:

"Lamp, Miscellaneous Income, Fixed Charges, and Interest, 11.01 cents," which I have already testified about. The contingent 10 cent appears in that form in Exhibit 94, also the taxes, also the repairs and the station cost. Now in the last column is my preliminary estimate—I call it preliminary because it awaits on the final investigation by the accountants for any possible changes—but my preliminary estimate, the first station cost is given this morning as 26.68, and in the early part of the afternoon; Repairs on Distribution System 3.56, taxes reduced from 7.27 to 6.08 as I testified a few minutes ago. Then contingent, by which I include also renewals not 10 cents as the Company gives it, but 5.31 cents; and "Other Expenses, aside from Excluded Items," which amount in their exhibit to 9.45 cents, although they had not given that particular figure, I reduce to 7 cents, making a total of 48.63 cents as compared with 63.80 cents as the total cost at the burner per thousand feet of gas made aside from return on capital.

Q. What is this 55.47?

A. Now on the next line I give what those costs would be at the burner on the basis of the station costs claimed by the Company, which was 33.52 cents, while I had taken 26.68 on the basis of the testimony I gave this morning but on the basis of the station cost claimed by the Company it would be 55.47 cents. Now I

3011 have added here another line at the bottom of this table: "On the basis of other expenses as given by the Company, to wit., 9.45 cents instead of 7 cents equals 57.92 cents." That represents the same cost as the Company claims with three exceptions, first a change in taxes to exclude taxes on property not connected apparently with the gas business, and reducing the contingent and renewal from 10 cents to 5.31, and excluding those items, four in number, Street Lamps, Miscellaneous Income, Fixed Charges and Interest.

Q. That is, making the reductions which appear in the column headed "Operating Costs according to Bemis' preliminary estimate per thousand cubic feet sold," and taking the basis of the Company's own statement as to station costs, it amounts to 55.47 cents?

A. Yes.

Q. And adding to that their own figure, that is, you take their own figure as to station costs and then you add their own figure as to other expenses?

A. Yes.

Q. As given by the Company, 9.45 cents, making a total of 57.92 cents?

A. Yes.

Q. As the cost in the burner?

Mr. MATHEWSON: You do not add the 9.45 cents, but add the difference between that and the 7 cents, which was employed by Professor Bemis.

Mr. BURR: Yes, that is what I mean.

The WITNESS: Yes, that is right.

Q. That gives the total in your estimation and judgment as 57.92 cents as the cost in the burner?

A. Yes.

Q. That is using their figures?

A. That is using their figures. I do not change my opinion.

Q. Your conclusion is that it is 48.63?

A. That is right.

3012 By Mr. MATHEWSON:

Q. Do you mean that that is your conclusion of what it does cost or what it——

A. Does cost or should cost; what it should cost either at present or with an up-to-date plant.

By Mr. BURR:

Q. What have you to say, if anything, as to the items called Other Expenses?

A. That I take at 7 cents, the reason being that the accountants found, as given in this case in a letter which has already been put in evidence that in Chicago it was only 17.2344 cents and that included repairs and renewals of 6.0043 cents.

Mr. MATHEWSON: I wish you would repeat that again.

The WITNESS: The Chicago accountants found the total distribution and general expenses to be, in the People's Company 17.2344 cents; they also found that that included repairs and renewals of 6.0043 cents, and in the hearing when I was testifying, the attorney of the company stated that the taxes were 5.5 cents per thousand feet. The taxes amounted to $604,000 and the sales were approximately twelve billion feet, which as we worked it out before the City counsel together, was 5.5 cents. Now, this item of Other Expenses does not include either taxes or repairs, which are elsewhere in this table. Deducting the taxes and repairs in the Chicago Report, namely, this 5.5 cents and 6.0043 cents or a total of 11.5043 leaves for the other expenses of distribution and general 5.7301 cents. Now, the Chicago Company sells only one-third as much gas per mile of main and has one-third as many consumers per mile as does the Consolidated Gas Company.

3013 By Mr. BURR:

Q. Do you know, by the way, how many miles of main they have in Chicago? Is it not two thousand or thereabouts?

A. I know it, yes. In the annual report of the People's Gas Light & Coke Company for the year ending December 31st, 1904, which I hold in my hand, it is stated on page 6: Street Mains, 1,939 miles; Meters, 359,327; Gas Stoves, 145,222——

Mr. MATHEWSON: You were not asked about all that.

Q. That 5.7301 cents includes something that the People's Gas Company charge to the expense of street lamps besides, doesn't it?

A. It did. I was given the form of distribution items which were included in the report, and they included the following in the People's Company: Meter repairs, main repairs, service repairs, gas stove repairs, general expense, including amounts written off, etc., office expense, New York office expense, legal expense, governor house expense, street expense, applicance expense, wages and salaries, meter setting, statement taking, turn on and cut-off, complaints, general inspection, burner inspection, fittings inspection, meter deposit, interest, rent, competition, lamp account, uniform account, advertising account, employees' aid, pensions, thawing, gas stove complaints, gas lost, taxes, insurance, store expense.

Q. Still referring to this item of other expenses, what in your opinion is an ample allowance for those in New York?

A. 7 cents.

Q. That is, not having before you the information that the accountants may have obtained?

A. Yes, subject to change if they find more, but based on the Chicago experience, it seems ample.

Q. What have you to say as to the contingent expense of
3014 ten cents claimed by the company?

A. That expense or renewal expense and contingent, as I finally made it read, I have figured upon as 5.31 cents. The way I reached that was this: The total repairs of the manufacturing portion of the system, according to Exhibit 94, were 2.02 cents, and the repairs upon the distributing system 3.56 cents, or a total of 5.58 cents. The difference between that and the average repairs and renewals for the twenty years preceding 1905, which were 10.89 cents as stated by the company (State Exhibit L, page 417), amount to 5.31 cents, and that is used instead of ten cents. In other words, I simply give enough to make up the total in repairs and renewals from the average of the last twenty years, or the last twenty years preceding 1905.

Q. You have prepared a table entitled Exhibit 94 and corrections of the same, have you?

A. That is the table that was really introduced a few moments ago.

Mr. MATHEWSON: Which was read in as part of your evidence?

The WITNESS: Yes.

Q. This table, Exhibit 94, and corrections of the same, what does that show?

A. That shows the cost to be 48.63 cents, in my opinion, with a proper first-class plant.

Q. As compared with?

A. 63.8 cents given by the company as their expenses with their plants and with their contracts for oil, and so forth. It also shows a cost——

Q. Do you mean the present plant, up-to-date plant, or a new plant?

A. 48.63 cents shows a cost with the present plant, or a plant doing as well as the New Amsterdam, Standard, or the Central Union are doing, and with a reasonable price for oil. Whether that
3015 requires a better plant than they have now, I will not undertake to say.

Q. If the company is not actually making and distributing gas as cheaply as your estimate of 48.63 cents, what reasons do you assign therefor?

Mr. MATHEWSON: Has he not gone over that. He has made certain deductions and stated upon what basis he makes them.

The WITNESS: I think I have covered that now.

Q. You have also stated what the result would be assuming the station costs are what the company returned them at?

A. Yes.

Q. We will take up the subject of return on capital. From your study and investigation of gas works and gas accounts and of the testimony and exhibits in this case and all the other matters that you have stated and considered in connection with the reports of 1885 and 1886, the Stevens Commission and the Gas Commission testimony, what is the best evidence of a proper return upon capital?

A. It is what one gets from the purchase of gas securities in the market. For example, if one pays $120 for a share of stock which pays a dividend of 6 per cent., the purchaser only secures 5 per cent. on his investment of $120, and that would show if he were willing to buy a 6 per cent. stock at $120, that he considered 5 per cent. a reasonable return on a gas investment.

Q. Have you made a study of the securities of other companies?

A. Yes.

Q. In other States?

A. Yes.

Q. You might specify a little in detail.

A. I have made a careful study of all the securities of all the large gas companies east of the Mississippi and north of the Ohio River that are quoted in the recognized financial authority, the *Commercial and Financial Chronicle* of this city.

3016 Mr. MATHEWSON: You mean a study of what their securities sell for?

The WITNESS: Yes.

Q. What do you find from this study as to bonds?

A. A study of these quotations for the year——

Mr. MATHEWSON: Is this also admissible under this ruling.

The MASTER: I do not think so, but——

Mr. BURR: We will produce these——

Mr. MATHEWSON: I do not object on the ground you have not

the original papers here, but on the ground it is incompetent and immaterial.

The MASTER: I doubt very much about general testimony as to market prices of gas securities all over the country, without any knowledge whatever of how the conditions attending those companies compare with those in this case, and to attempt to compare the conditions existing in every case with the conditions existing here would raise a number of collateral issues which manifestly even the free and easy methods of an equity suit would not permit, and I do not see that it is very material, but if it is not long, I will take it for what it is worth, but it is only fair to say that I do not think it is of very great importance.

Mr. BURR: It will only take five minutes.

Mr. MATHEWSON: Of course, we will have an opportunity to rebut it?

The MASTER: It opens the door for a great deal of very remote testimony, if the other side think it of sufficient importance to follow it up.

Mr. BURR: It is in the line of replying as best we may to the statements made by their bankers and financiers.

3017 The MASTER: Of course, to a certain extent they have invited that testimony by putting in general testimony of bankers, but that is a little different than putting in definite prices of securities. However I will al-ow it.

Mr. MATHEWSON: Exception.

A. A study of these quotations for the year 1905, was given in the review of that year published at the beginning of the year 1906 by the *Commercial and Financial Chronicle* and a study of the quotations of the year 1906 to date as given in the Bank and Quotation Supplement of the *Chronicle* of September 8th, 1906, shows that of the thirty-four issues of gas bonds of large companies in twenty-four different cities every 5 per cent. bond was at par or above throughout 1905 with the exception of the Buffalo Gas Company, and every four per cent. and four and one-half per cent. bond was above 90 throughout the year.

Q. What do you find as to stocks?

A. A similar study of the price of gas stocks has been made; not many are quoted, but the following are the dividends during the last twelve months and the prices actually brought for their stocks during the current year and given in the *Financial and Commercial Chronicle,* Bank and Quotation Supplement, for September, 1906.

3018 (TABLE 14.)

Gas Stocks and Dividends.

January 1–September 1, 1906.

Name.	Annual dividends. Per cent.	Price of stock.	Net return on investment. Per cent.
Cambridge, Mass.....	10	275	3.64
Charlestown, Mass	10	252	4
Lowell, Mass.....	10	248	4
Lynn, Mass.....	10	325	3.08
Mass. Gas Companies, Com.....	...	57¾	
" " " Pref.....	4	88½	4.52
Montreal Light, Heat & Power Co.....	4	96	4.17
United Gas Improvement Co., Phila.....	8	172¾	4.65
Consolidated Gas, Baltimore, Common...	...	37½	
Washington, D. C.....	10	300	3⅓
People's G. L. & C. Co., Chi.....	6	99 to 114	5.27 to 6
Laclede G. L. Co., St. Louis, Common...	5	95	5.26
Laclede G. L. Co., St. Louis, Preferred...	5	95	5.26

Q. From this it would appear that the stocks are all selling on a six per cent. basis, would it not?

A. They were selling on a better basis than that. They were nearly all of them selling on a four to five per cent. basis.

Q. What do you find, Professor, in this regard from an examination of State's Exhibit 82, page 351, and State Exhibit 83, page 352?

A. The first exhibit mentioned, State's Exhibit 82, page 351, giving market quotations for the Consolidated Gas Company's
3019 stock since 1884 and Exhibit 83, page 352, giving dividends for the Consolidated Gas Company since 1884, show that since 1885 up to January 1906, there have been only portions of two years, 1894 and 1895, when one could secure six per cent. by an investment in Consolidated Gas Company's stock, the premium being so high.

Q. What do you deduce from these facts?

A. That it is a conservative statement that one can not secure more than a five per cent. return on an investment in gas bonds in any of our large American cities or more than six per cent. on an investment in their stock.

Q. Does this apply to companies that are newly organized?

A. No. It is quite possible that during the early history of these companies, from forty to eighty years ago, a larger return was necessary in the infancy of the business, in order to enable the securities to be floated at par, and that may be true in smaller cities to-day. I do not for one moment believe, however, that a Company possessed of the only rights that have been granted to sell gas in New York

City, as is true of the Consolidated Company and of the companies with which it has agreements, and selling more per capita and per mile of mains than any other city in the world, would have the slightest difficulty in floating at par all the five per cent. bonds and all the stock bearing six per cent. dividends that might be required for the actual cost of construction. Probably one-half of the money could be raised on a four and one-half per cent. bond and the other on a five and one-half per cent. stock, making an average return on the cost of construction of five per cent. Certainly a six per cent. return is very liberal.

Q. Would that be sufficient in your opinion to cover unforeseen contingencies?

A. Yes, it will cover insurance against unforeseen contin-
3020 gencies, as has often been referred to, like the gas explosion in Boston. I might refer to that a moment if you like.

The MASTER: Well, Mr. Burr, I do not want to cut you off, but is not this a little speculative? The Professor has not been shown to have any experience in the flotation of securities of this kind. As to what could or could not be done, that is a matter which could be put in your brief, as well as putting it in as testimony here.

Mr. BURR: Well, that is all we were going to put in on that subject.

Q. Now, the Boston explosion which has been referred to here by President Addicks, I think——

A. Yes.

Q. Have you any information in regard to that, or its causes, or any findings with regard to that subject?

A. I know of no other gas explosion as costly to a Company as that, and its occurrence anywhere else seems exceedingly improbable. As to that Boston gas explosion I will quote from the report to the Massachusetts Legislature relative to this explosion, the report being dated June 4th, 1897, and being made by the Massachusetts Gas & Electric Light Commission, in response to a request by the State Legislature for a report. This report appeared in the Appendix Page 172, of the Annual Report of the Massachusetts Gas & Electric Light Commission for the year ending June 30th, 1897, the explosion having occurred a little before in the same year, and I will read merely a short statement about the causes.

"In the light of the event itself, this explosion might have been averted if any one of the following things had been done:—" Now I omit three statements, and come to the fourth.

3021 "Fourth. If reasonable skill and activity had been applied in the management of the jobbing department of the gas company, so that one of its jobbers had been sent with reasonable promptness on the complaint from the Masonic Temple or upon the later complaint received from the police officer.

"The work of the subway throughout its length was one of unusual hazard and extraordinary difficulties. Life and property were both imperiled, and the danger to the latter was perhaps the more obvious.

"It is doubtful if the difficulties encountered at the intersection of these streets, in the number and character of the underground structures met, in the enormous amount of street car and other traffic to be maintained without interruption, in the nearness of the new structures to the surface of the street were ever paralleled in any public work."

Q. Now what do you conclude from this?

A. I conclude that the Company was partly to blame, and that it is not reasonable to ask the gas consumers to insure the Company against its own mistakes. But I should think that 6 per cent. being much more than an ample return on an investment without risk, for such investments can be floated at 4 per cent, and even less, that there is covered in the 6 per cent. some risk.

Q. Your conclusion is that 6 per cent. is ample?

A. Yes.

Q. Have you any further confirmation of this statement as the result of the facts gleaned by you with regard to other companies?

A. Yes.

Q. Please state what companies you refer to?

A. Reference should be made to the action of the Massachusetts Gas & Electric Light Commission during the year ending
3022 June 30th, 1905, as given in their last printed report, pages 18 to 36. This relates to the action taken by this Massachusetts Commission in fixing the interest on new bonds and the premium on new issues of stock. Very significant in this connection are the orders issued in the year ending June 30th, 1906, by the Massachusetts Gas & Electric Light Commission for the issue of new securities by several gas companies in Massachusetts. It may be observed that the Massachusetts Commission has the right to fix the interest on all new bond issues and the price at which stock issues may be taken by the stockholders.

The Clinton Gas Light Company secured the right to issue $110,000 worth of bonds. The Commission stated, pages 21 and 22 of the report, that the bonds can be placed at par and yet bear interest at 4½ per cent., and that interest was fixed by the Commission.

The Cambridge Company was permitted to issue 1,200 shares of stock, but the market value was fixed at 200, the stock paying 10 per cent. dividends; which means that the Gas Commission consider 5 per cent. sufficient return on further investments, while any one buying in the open market, already observed——

Mr. MATHEWSON: I move to strike out "Which shows that the Gas Commission considers etc."

The MASTER: Strike it out.

Q. You need not characterize it.

A. While any one buying in the open market, as already observed, would get less than 4 per cent., because the stock is selling at 275.

The Lynn Gas & Electric Light Company likewise, was only allowed by the Gas Commission to issue its $100 shares at $200. Since

its shares were paying 10 per cent. this gave only a five per
3023 cent. return on the new investment. It may be remarked that the State Commission only fixes the price at which new stock can be taken by the old stockholders without public bidding. Any stock which the stockholders do not care to take, at those prices fixed by the Commission, is sold at auction after due advertisement. Experience has shown that the stockholders usually take all of the stock at the price fixed by the Commission.

Brockton was allowed to issue 1,300 shares at par but that stock was only paying 5 per cent.

The Newburyport Gas & Electric Company was allowed to issue 600 shares at $100 a share. The stock was paying 5¾ per cent.

The Fitchburg Gas & Electric Light Company was allowed to issue 2,200 shares capital stock at the par value of $50 each at 80, that is, at 160. Since the stock was paying only 8 per cent. this meant again a five per cent. return.

The Natick Gaslight Company was allowed to issue 250 shares at par. The company was paying 4 per cent. dividends.

The Malden and Melrose Gaslight Company was allowed to issue 2,025 shares of stock, at $120 each. Since this stock was paying 9 per cent., it was equivalent to 7.5 per cent. return on the investment. This was the highest return authorized.

The Worcester County Gas Company, which was paying no dividend, was allowed to issue $85,000 of new stock at par. It appears from all the above illustrations, that, with one unimportant exception, existing stockholders were forced to put up with a 5 per cent. investment or less on all new investments in the gas business.

Q. That is, 5 per cent. return on the new investment on the gas business in Massachusetts?

A. Yes.

Q. Do these companies sell as much gas as the Consolidated Gas Companies?

3024 A. Not one of them sell one-twentieth as much gas as the Consolidated Gas Company.

Q. And in your opinion, under these circumstances, 6 per cent. would be a liberal return to the Consolidated Gas Company?

A. Yes.

Q. Now, these investments that you speak of in Massachusetts and the issues of stock and bonds since 1894, could they be made for any thing more or other than actual construction?

A. No, neither in Massachusetts nor in Great Britain can securities be issued or prices charged on sales of gas to cover either an increase in the value of land owned by the company or the value of street paving put over the mains at the expense of the tax-paying consumer of gas.

Q. Have you read the testimony of Professor Humphreys in this regard to which you refer?

A. Yes.

Q. Will you kindly call the Master's attention to it? I think it is very important.

A. In the Holyoke Gas case, the Holyoke Water Power Company,

Petitioner, against the City of Holyoke, Volume 2, pages 277 and 278, occurs this statement:

"Q. You have not in this case taken, in the first place, the structural value of the gas plant and the electric light plant, and then added to it an additional value on account of what the plant could earn, but you have made your valuation in the first instance upon the earnings? A. I followed my usual practice by basing it on earnings, simply checking myself up, simply to show that my assistants reported to me a plant capable of maintaining that business.

"Q. Why do you take 5 per cent. as the sum at which you
3025 capitalize the net earnings of the company? A. In my judgment that was a fair return on that kind of an investment.

"Q. By that do you mean annual return to the persons who put their money into it? A. Yes.

"Q. And if the investment were represented by stock, you would mean that dividends should be paid at the rate of 6 per cent? A. Yes, sir.

[On the margin:] 6% amended to read 5%. See Supplemental Opinion March 11, 1908, Paragraph IV.

"Q. And whether or not in making this estimate of value you assumed that there would be the same freedom from competition that now obtains? A. I assumed the same conditions.

"Q. With respect to competition? A. Yes.

"Q. That is, you assumed the same conditions that now exist? A. Freedom from competition.

"Q. And I understand you to say that you valued this plant on the same basis that you valued the plants which you were employed to appraise in New York and New Jersey and other States? A. The same conditions generally."

After some discussion between the attorneys the witness finally stated this, at the bottom of page 278:

"I did not go into that very specifically, but I reinforced my opinion as to the values by my general impression that gas properties and lighting properties in Massachusetts are perhaps a little better protected than in other parts of the country. I did not make any special allowance, but I thought that reinforced my judgment as to the values.

"Q. Was your attention called to any particular feature of the laws of this State affecting gas and electric light companies? A. No.

Redirect examination by Mr. BROOKS:

3026 "Q. Whether or not you took into consideration at all the future earning capacity? A. No.'"

Q. What was the nature of that proceeding in which Professor Humphreys, who testified in this proceeding, testified?

A. It was a case in which the City of Holyoke had voted to purchase the gas and electric light plant, and under the State law of Massachusetts the Company has the right to require the City to purchase the plant then in operation, and the law provides that a

State Court shall appoint a Commission to receive evidence as to the value of such a plant.

Q. And was Professor Humphreys called as a witness to testify as to the value of that plant?

A. Professor Humphreys was called as a witness to testify as to the value of that plant.

Q. And in that proceeding he testified as you have read?

A. Yes.

Q. Do you wish to take up the question of the capitalization?

A. I am prepared to, and the cost of the property.

Mr. MATHEWSON: I should correct, if you will permit me, a misapprehension that got on the record this morning with reference to the Mutual Gas Light Company. It was formerly a coal gas company and not having represented that Company, I was under the impression that they manufactured some coal gas. I understand they do not, so that if I am correct, of course it would be impossible for Professor Bemis to make the comparisons suggested.

Mr. BURR: That was the reason that I refused to accept the offer you made me.

The WITNESS: I did not have a chance to state this morn-
3027 ing that I had looked for an evidence of coal gas but could not find it.

Q. Have you taken up the consideration of the cost of the property of the Consolidated Gas Company?

A. Yes.

Q. And have you examined the testimony given before the various Commissions?

A. Yes.

Q. As it appears in the reports of 1885 and 1886 for the purpose of getting all the information you possibly could on that subject?

A. Yes.

Q. You might tell us what you did do in that regard?

A. I read the two reports to the Senate——

Mr. MATHEWSON: My objection to this line of testimony, is made, Mr. Master, and does it meet with the same reception.

The MASTER: We will go on a little further with it and see. What did you say you had read beside the two reports?

The WITNESS: That is all I had said. There were two reports made in 1885 and 1886. I started with Mr. Yalden's report, with full knowledge of the fact that the report of two members of the Committee constituting a majority in 1886 stated at page 76 of the report, referring to the——

The MASTER: Never mind that, Professor. What I want to get at is the question as to the propriety of these articles.

The WITNESS: I wanted to give my reasons for accepting Mr. Yalden's statement.

Mr. BURR: We have Yalden's reports in evidence.

The MASTER: Do I understand he is going to testify as to the value of these properties and his conclusions based upon
3028 something which appears in these reports of the Senate Committee?

Mr. BURR: You have three documents before you here. One is the report of the Committee of 1886, another is the appraisement made at that time by Thomas F. Rowland, introduced by the Committee; and the other is the report of the Committee of that year, 1886, the minority part which was offered by the City and the majority part was offered by the Company. Now we are taking these just like exhibits in the case from which he has arranged such items of cost which will lead up to the present situation here.

The MASTER: It seems to me that is a little remote. In regard to these other branches of the case, where he based his testimony largely on the evidence taken in this case and tabulations put in by the other side, I allowed you considerable latitude on the theory that as a statistician, it was competent to analyze and criticise and pick flaws in any figures that the other side advanced. But, as I understand this proposition his criticisms are not directed towards any of the evidence in this case, but he is basing some theory here on reports made by the Senate Committee or documents contained in those reports that we have nothing to do with here.

Mr. BURR: No, he is starting with a situation which is made evident as existing at the time when the consolidation occurred, as appears by these exhibits, and starting with that, he is taking that as a basis in connection with the statement now here before you as to what has been spent in that time for construction and what has been spent in that time for repairs and what the present valuation of that
3029 property is, and in order to be logical I have got to start at the beginning. And I will read to you, he does not need to testify at all, I can read from the testimony there given, the testimony of Rowland and the testimony of Yalden, and starting with that testimony and in connection with these exhibits here, have him arrange his conclusions as the result of that situation.

The MASTER: Well, but does not even that go back pretty far?

Mr. BURR: It does, but in my judgment—I may be wrong and we entertain undoubtedly different views in regard to that—but I think the Court is entitled to take into consideration the cost of these plants and the costs as they appeared upon the books of the companies and given by Yalden in his testimony and the manner in which Rowland raised that cost, by his appraisal, as stated by Mr. Rowland himself, and I think you are entitled to have that statement from the past before you. It is not long and it is not going to occupy much time. The whole thing is here and it is a few extracts by question and answer as to what basis they took. Yalden took the valuation from the books and Rowland took another system of appraising, and the amount of his appraisal is in the exhibit before you, and that I think is material in view of what we claim is the real investment in these plants making gas upon which we contend they are only entitled to a return.

The MASTER: I do not understand that the other side has put in any proof as to the value of the plant based upon what it cost in 1884 or what they allowed for it in 1884.

Mr. BURR: No, they carefully avoided it. They are insisting that

we have nothing to do with it, but you are to find the value
3030 as it has appreciated in the year 1906. We say you must look back and see what was the real investment in this business.

The MASTER: But if you are going to fix the price of gas based on what property they have employed in the gas business, is not the question as to what that value is to-day? What difference does it make what it was worth twenty years ago? It may have gone up or gone down.

Mr. BURR: I think it makes a good deal of difference in our view of this situation. We present the cost of this property at a certain year and we take their exhibits and show what they claim to have spent on it since both in repairs and new construction and renewals, and we say there is the original valuation as appears upon the books and here are vast sums of money they have spent and that represents what it has cost them up to the present time.

The MASTER: And a further question suggests itself to my mind, and that is that whatever valuations this witness testifies to according to your statement are book valuations made up by expert accountants. Now, I do not understand, do you, that in getting at the value of a company that book valuations are evidence of any great weight? A great many companies consistently carry their book values very much below or very much above what the actual values are or the actual cost for purposes of their own. Some companies carry them down as low as one-tenth of the cost and some companies, who may want to float a bond issue, carry them away above.

Mr. BURR: You will see that this inventory in 1886 was for the purpose of ascertaining whether there was a justification of a capitalization of $37,000,000, so the inquiry went to the root of the
3031 thing, and the root of the thing was brought about through Yalden, who went to the books of the various companies and he states in this statement how he arrived at his figures.

The MASTER: But at the best, it is a second-hand reproduction of Mr. Yalden's testimony with no opportunity to cross-examine him, and *non constat*, we do not know but what if he were cross-examined his figures would be deprived of their value.

Mr. BURR: The same applies to the report of Michael C. Murphy. He is dead and Mr. Yalden is dead. We take the figures as they are attached to the Senate Document, Exhibit 42.

Mr. MATHEWSON: Is not this the situation, you first offered page 76 of the report of 1886, and we objected, but the Master admitted it, showing how the $20,946.60 were made up, which was said to be the value at which these items of assets were carried on the books of the constituent companies. That was all it purported to show. Then that having been admitted we offered the majority report and you offered the minority reports, and then later on offered all the schedules of Yalden together with his report. Now why does not that cover the whole ground? You offered the schedules as they are in evidence.

The MASTER: Well, I have been very liberal about allowing all these things that took place before the various bodies who investigated this matter, in view of the memorandum and opinion from

the court that time would be saved here by allowing both parties to put in all sorts of tabulations which might otherwise require new work, and on that theory I have allowed all these things to go
3032 in which might under the strict rules be objectionable; but it seems to me that when I have gone that far it is about far enough. There is no particular force in allowing a witness to go to work and testify basing his arguments on those matters which are some of them twenty years old at least. I have no desire to cut you off, but it does seem to me that it is getting a little beyond the proper scope of the inquiry. I am disposed to sustain this objection and give you an exception, and if you decide to press the matter of course the witness can answer and it can go in in the ordinary way and be on the record. But I think that I must exclude it.

Mr. BURR: I want to call your attention to th- fact that in the Stevens Committee Mr. Hughes read from this very book that I am referring to, the testimony of Mr. Gawtry. And in the Gas Commission I am informed they used Yalden's figures.

Mr. MATHEWSON: No, I do not think it was the testimony of Mr. Gawtry in that proceeding, but the testimony of Mr. Gawtry in a subsequent proceeding relating to taxation which Mr. Hughes read. I do not think he read his testimony given in the investigation of 1886.

Mr. BURR: Will you say that the proceedings of 1886 were not read into the record before the Stevens Committee?

Mr. MATHEWSON: That is my impression, that none of it was read in.

Mr. KIRBY: It was read in.

Mr. MATHEWSON: Well, it must have been very little.

Mr. BURR: Well, this is very little, but it is of extreme importance.

The MASTER: I may be in error about all this and it may be in direct conflict with something I have held heretofore about
3033 this line of testimony, but it seems to me the way you put it that that testimony is not only clearly incompetent, but irrelevant and immaterial.

Mr. BURR: The Master has ruled it out and I take an exception and I now proceed to ask him under the ruling of the proceeding.

Q. Have you studied or consulted Yalden's figures in arriving at the basis of the cost of the property to the Company in 1884?

A. Yes.

Q. Did Mr. Yalden appear as a witness in that proceeding?

A. Yes.

Q. Will you refer me to the place where he testified?

A. In the index there are many references to his testimony, and then he has a whole appendix prepared apparently at the request of the Commission, of tables.

Mr. MATHEWSON: That is all in evidence, including his report preceding the table.

Q. You are familiar with the cost of the property as it appears there upon page 76 of the Senate Committee's report?

A. Yes.

Mr. MATHEWSON: You mean you are familiar with the cost of the property or with the statement?

The WITNESS: With the statement.

Mr. BURR: With the statement of the cost appearing on page 76.

Q. And referring to the report of the Committee on page 76 as to the appraisal by Mr. Rowland and others of the $30,190,419.01, the report states, does it not, "There is no evidence that any
3034 of these items were appraised too high, except the evidence of the expert, Mr. Yalden, who finds that they were higher than they appeared to have been charged as costing in the Company's books."

A. Yes.

Q. Now, in the minority report, page 28, there is a statement there that the stockholders had only contributed $8,727,050, and that the total cost from all sources of property paid for by stockholders' original contributions, by surplus earnings, by stock treated as money and from the proceeds of bonds and other loans was only $20,942,632.85, although the property was capitalized at $37,190,-419.01 in 1884?

A. Yes.

Q. What leads you to believe in the accuracy of Mr. Yalden's figures as given in his report is the fact that he testified as a witness?

A. He did.

Q. Will you refer to his testimony in that connection?

A. He testified frequently throughout the 624 pages.

Q. I refer particularly to page 345.

A. On page 345 he was asked if he had ascertained from the books the actual cost to the Consolidated Gas Company. He replied yes in every company.

Q. Is there any further confirmation of this in the testimony taken before that Commission?

A. A very powerful confirmation in the testimony of Mr. John P. Kennedy, President of the Mutual Gaslight Company, which was organized in 1866 and was included in Mr. Yalden's investigation.

Mr. MATHEWSON: That is not one of the consolidating companies at all.

The WITNESS: It was included in Mr. Yalden's investigation.

Mr. MATHEWSON: It might be possibly true that it might be arguable, although I do not think it is, that if officers of
3035 & 3036 one of the constituent companies may have said something, it might be raised inferentially against us, but how an officer of the Mutual Gas Light Company, which is not one of the constituent companies at all can be offered here or be in any way competent, I do not see.

Mr. BURR: Only for this reason, that it takes 339 Mr. Kennedy states "The fact is we do not criticize Mr. Yalden's work, but take it for granted that it is all right." There is the President of the Mutual Gas Light Company, emphasizing the fact.

The MASTER: I cannot see that is of any importance, with all due respect. I will exclude all that.

At 4 P. M. adjourned to October 17, 1906, at 11 A. M.

Last Exhibits:

Complainant's 256,
State's W,
City's 56.

3037 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, WEDNESDAY, *October* 17, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Burr and Mr. Kirby.

3038 Mr. BURR: I want to read into the testimony at this point extracts from the testimony before the Senate Committee of 1886, apropos of the appraisal which has been introduced in evidence here, made by Mr. Rowland at that time.

Mr. MATHEWSON: My objection lies to that, I understand. I do object.

The MASTER: I will overrule it.

Mr. MATHEWSON: Exception.

Mr. BURR: Mr. Kennedy, the President of the Mutual Gas Light Company, being examined in regard to the appraisal of Mr. Rowland, testified as follows:

Mr. MATHEWSON: I further object on the ground that the Mutual Gas Light Company is not a party to the consolidation, so that no argument can be based on that proposition.

Mr. BURR: The fact is that they attempted to be a party to the consolidation, but were prevented by a statute, and got around it in another way.

The MASTER: I am overruling that objection simply from the fact that the material that Mr. Burr wants to get in is from some of these printed records in other proceedings which have been admitted, and the fact that it is twenty years old——

Mr. BURR: This is all pertinent to the valuation of the plant. I will read the testimony:

"Q. And the basis of the valuation of the plant was what it would cost to duplicate it? A. Yes, sir.

"Q. When you spoke of what it would cost to duplicate, did you mean what it would cost for a plant equivalent to the plant to be appraised? A. No, sir; to duplicate everything as it was
3039 without any reference to anything else.

"Q. Without reference to whether it was really necessary to produce a given capacity or not? A. Yes, sir.

"Q. And without reference to whether the plant or any part of it had been superseded, or rendered more or less useless by reason of the change in the method of production? A. Yes, sir.

"Q. So that the properties that were laid aside as useless, or comparatively so, caused by the change of production in the same works from coal gas to water gas, were to be appraised or valued according to what it would cost to duplicate them as they stood. A. Just as they stood.

"Q. In your opinion, would that be a fair way to buy a gas plant for present actual business purposes? A. No, I don't think it would. If I was going to buy one, I should want to get a modern one, of course."

Mr. MATHEWSON: What page is that?

Mr. BURR: Page 411. Now I go to page 413.

"I could only say that the companies were all estimated upon the same basis of valuation.

"Q. That basis was what it would cost, estimating the cost of material on hand? A. Yes, sir.

(By the CHAIRMAN:)

"Q. That might be a very different thing, getting at its real value as the purchaser would look at it? A. Yes, sir.

"Q. All you were looking after was to get it relatively right? A. Yes, sir; compare my own with the others.

"Q. To see that they were on the same basis? A. Yes, sir.
3040 "Q. The ultimate object was to get it relatively right? A. Yes, sir; to get it relatively right.

"Q. The appraisement was very different from a purchaser? A. Yes, sir; if the company desired to sell out, there would be two parties to the affair.

"Q. One of which would look to see whether this particular piece of machinery—what it would cost? A. Yes, and in this case there was only one party.

"Q. And he was the seller? A. Yes, sir. There was no one there to bid them down."

EDWARD W. BEMIS resumed.

Direct examination by Mr. BURR (continued):

Q. Now you heard Mr. Carter in this proceeding criticise Mr. Yalden's statement in regard to the Manhattan Gas Light Company. What have you to say to that?

A. I would say that Mr. Carter called attention to the fact that Mr. Yalden had reported the cost of the Manhattan Gas Light plant on page 671 of the Senate Report of 1886 as only $64,247.49, that is

the cost of all the manufacturing portion of the property of the company, which Mr. Carter held to be very much out of the way. This statement——

By Mr. MATHEWSON:

Q. Mr. Carter used the word "plant" in his testimony, did he not, simply the word "plant"?

A. Probably. This figure of $64,247.49 purported to be for plant and was so interpreted by Mr. Carter, the term "plant" being
3041 used to cover the manufacturing portion of the property. But this is all explained in the next three pages of the same report of 1886 by Mr. Yalden, where it is shown that in the real estate item of $3,351,730.74 was included $1,890,810.82 of apparatus, and $513,022.94 of buildings and improvements. Mr. Yalden's report, therefore, did not ignore the manufacturing plant of the Manhattan Company, as a first glance at his table on page 671 would imply. I might add, in respect to this company, that Mr. Yalden stated in his testimony, page 368, "The Manhattan Company has nothing to show on the books for an increase in book value from $4,873,000 to $9,611,000." And I may state that this new capital went into the consolidation.

Q. Did you read all the testimony before the committee in 1886?

A. Yes, 624 pages and the appendix.

Q. And did you find Mr. Yalden's report referred to often?

A. Yes, and he himself was on the witness stand several times.

Q. And was it criticised in any respect?

A. Not a criticism.

Q. Was it approved?

A. Yes, it was taken for granted, at least, as correct.

Q. Now, as to the report of the committee of 1885——

Mr. MATHEWSON: Just a minute. This witness has now stated that the report of Yalden was approved in every respect, and it was taken granted. That is a pretty broad conclusion. Just what the witness means, I don't know, but it seems to be improper, in any event. What the testimony shows, it shows as to what Mr. Yalden took.

The MASTER: That seems to be a reasonable proposition, does it not?

3042 Mr. BURR: He has read all the testimony, and states that Yalden's conclusions were not disputed. He states that as a fact, in that proceeding. Now, if Yalden's figures were disputed and found to be incorrect, there is the record, which is open to Mr. Mathewson, as it was to me. We state that, from the whole record, his figures were correct and were not disputed.

The MASTER: That may all be. There may have been many reasons for not disputing them that I know nothing about, and which Mr. Mathewson could not show at this time. I think if I let those old tabulations in, that is as far as I am justified in going. I do not think the witness' conclusions about them are relative and material, and I do not think that any independent testimony based

upon those tabulations has anything to do with this case. As I said yesterday, it seems to me it is too remote.

Mr. MATHEWSON: I move to strike out the language to which I just called attention, where the witness states his conclusions as to the acceptance of that report.

The MASTER: Strike it out.

Mr. BURR: Exception. I want to read into the record an extract from the report of the committee of 1885 on this subject.

Mr. MATHEWSON: That is the previous committee?

Mr. BURR: Yes.

Mr. MATHEWSON: I suppose counsel knows, but perhaps the Master does not know, that a committee was appointed by the Senate in 1885 to investigate this consolidation, which was completed in No-

3043 vember, 1884, and that it was to report to the Legislature of 1885. It did hastily make an examination and made a report, which was considered so insufficient that a new committee was at once appointed and directed to report the next year and go over the ground thoroughly. That was the second committee which reported in 1886, Senate Document 47, and from whose report various items have been put in. Now, it does seem to me that to take the report of the committee of 1885, appointed by the Senate, which was turned down and a new committee appointed because the committee of 1885 had not had time, the Senate thought, fairly to consider the question, and put in suggestions from that report is rather idle. I do not know how I could meet the proposition if the report had been the other way.

Mr. BURR: The object is to show, since you have made your statement in that connection, that this committee of 1885 in their report found just as the witnesses from whose testimony I have read found, as stated in their testimony in regard to the valuation. And they say: "The president of one of the New York companies, R. N. C. Graham——"

Mr. MATHEWSON: I do not think it should go on the record until we know what it is. I do not think you should say you propose to offer it, and then read it.

Mr. BURR: Well, I will read it without having it taken down, so the Master can see what it is (reading).

The MASTER: I will admit it, as long as the one of 1886 is in, and will let it go in.

Mr. MATHEWSON: Exception.

Mr. BURR: I read from the report of the committee of this New York Senate, March 30th, 1885, as follows:

"The president of one of the New York companies, R. N. C.

3044 Graham (of the Equitable Company) testified that in his opinion $15,000,000 would be a fair estimated capitalization to produce an annual output of 5,000,000,000 feet for the equivalent of $3 capital to each 1,000 feet on such a large output. The fact, as exhibited by recognized publications, appears to be that the average capital per 1,000 feet of gas in Great Britain is about $3.23 and in the City of London about $3. * * * But by the imposition of this consolidation it would appear to be at the rate of $8.75 per one thou-

sand feet. This unreasonable result could not have been reached without the introduction of illegitimate items, the character of which has already been indicated. An illustration of the method of capitalization is afforded by the allotment of $3,000,000 of consolidated stock for the shareholders of the Knickerbocker Company. In fact, the Knickerbocker Company for several years has had only a nominal independent existence. Its entire stock was acquired, according to the testimony, by the Municipal Company, which caused it to be held for the benefit of the Municipal Company. * * * It is known that money was spent by the Municipal Company in increasing the works of the Knickerbocker Company, and that by the terms of such expenditure the property thus added was to be deemed to be the property of the Municipal Company. Several hundreds of thousand dollars appear to have been thus spent. The plant and works of the Knickerbocker Company, however, seem to have been rated in examination, at least, at their full value, while the franchises, so called, of the Knickerbocker Company are separately stated about $528,000, when in fact it had none."

3045 Mr. MATHEWSON: How foolish all that proposition is appears at the start, that a comparison with the cost in London is made, where material and labor, and everything else were less expensive.

Q. Have you tabulated these results as you found them in these reports?

A. I have.

Mr. MATHEWSON: Which reports?

Mr. BURR: Showing in his judgment and opinion what was the cost of the gas property up to October 31st, 1905, taking as a basis the statements I have just read from Yalden's report from the testimony that has been introduced already and read into the record here.

Mr. MATHEWSON: I object to this witness, who never constructed a gas works in his life, and who never even operated a gas works, stating what, in his opinion, is the value of our property to-day.

The MASTER: Objection sustained.

Mr. MATHEWSON: If he means to ask the witness to tabulate figures which he has taken which are not an expression of opinion on his part as to value, that is another question.

Mr. BURR: I am asking him to tabulate the figures which have been given in this case and the figures that have been read into the evidence here from the reports of 1885 and 1886.

Mr. MATHEWSON: No figures have been read in from the report of 1885.

Mr. BURR: Well, from the testimony as it has been read into the record here.

The MASTER: I sustain the objection for the reasons stated yesterday. While I am disposed to allow great liberality in admitting these old tabulations for the purpose of reference, in view of

3046 the language of the Court's memorandum, I do not think it is right to allow the witness to put in independent testimony, not based on the complainant's case, but on criticisms and analyses of these old documents over twenty years old. It is going pretty far

afield, in my judgment, so I will sustain the objection, as I did yesterday.

Mr. BURR: I except.

A. This table, which should be numbered consecutively Table 15, cost of the gas properties up to October 31st, 1905:

Cost in 1884, according to Yalden page 776 of report of '86	$20,942,632.85	
Net increase from 1884 to Oct. 31, 1905, according to Complainant's Exhibit 79, page 347*a*	9,693,555.90	
Material and supplies (Complainant's Exhibit 80, page 348)	616,470.08	
Total	$31,252,668.83	$31,252,668.83
Less value of the property taken by the City at the 18th St. and other property sold by the Co. as given in testimony of Prof. Marks, page 2364		1,985,874.37
Balance		$29,266,757.46
Total cost of property per 1,000 feet sold in 1905	$2.20	
Profits, 6 *a/c* of $2.20	13.2c.	

That table takes the complainant's own figures for the changes since 1884, and takes Mr. Yalden's computation of the cost then. I am aware that Professor Marks (page 2367) made a further reduction of $2,077,530.50 for other property not in use in the gas
3047 business at 18th Street, as inventoried by Mr. Mayer, and at 112th Street, but I have not had the time myself to look into the matter as to particulars, and so have not subtracted those two items. I do not express any opinion as to whether they should be or not, therefore.

Q. Now, in your testimony before the State Gas Commission last winter you allowed the Consolidated a million dollars of working capital, did you not?

A. Yes.

Q. In your opinion do they need such an amount, and, if so, how do they secure it?

Mr. MATHEWSON: Is Professor Bemis an expert on this subject, as to what is required for working capital in a gas business?

Mr. BURR: He is now testifying from the figures that have been introduced here, and from the figures and the exhibits introduced before the State Gas Commission, whether you show that you have any need of that amount of working capital. You remember that Mr. Marks made the point also——

Mr. MATHEWSON: He had had some little experience in the gas business, although extremely remote.

Mr. BURR: As I said before, that all goes to the weight to be given by the Master to the testimony.

Mr. MATHEWSON: This witness was never in the gas business, and is asked what is the proper working capital.

Mr. BURR: That all goes to the weight of his testimony. If his opinion is not worth anything, the Master will probably find it so. If it is worth anything, and he can testify to his statements from exhibits here and from your own sworn testimony, that is another matter.

3048 The MASTER: I will allow it.

Mr. MATHEWSON: Exception.

The WITNESS: May I be permitted to say that in connection with the management of the water works in Cleveland we have similar problems, as the distribution system is very much analogous, and the question of working capital and other matters—the character of street mains, the effects of electrolysis, general clerical expenses and many other things are similar problems—not the same precisely, of course, but it is very much analogous in many respects.

Q. Now answer the question.

A. They have in their treasury, I believe, from half a million to a million dollars for working capital. The average monthly expenses aside from construction are somewhat less than $700,000. That is obtained by dividing their annual expenses by twelve; and they may need that amount on hand, but most expenses are probably only paid after thirty days, except salaries and wages, and many of those are by the month, and it seems quite likely that the current receipts which are coming in all the time from the sale of gas will take care of these bills when they are due. Still, I give them the benefit of the allowance of a full million dollars.

Q. How much does that million dollars amount to per thousand feet of gas?

A. It amounts to only—that is, the million dollars is only 7½ cents per thousand feet of sales in 905; and six per cent. of that is less than one-half cent per thousand feet; eight per cent. of it is less than .6 of a cent. Now, I might state there that $906,000 of that million they have from consumers and pay them only six per cent. on it, and it would not be necessary to add but six per cent. I will have here computations later on the basis of both six and eight per cent.

3049 Q. Now will you just state again what the operating cost was according to Exhibit 94 as corrected by you, in the matter of taxes and contingencies and renewals, and what was your own estimate?

A. 57.92 cents was my correction of Exhibit 94.

Mr. MATHEWSON: That has all appeared and it is, in so many figures, in his statement.

Mr. BURR: I want it in connection with these figures.

The WITNESS: And my estimate independently was 48.63 cents.

Q. If you add to this operating cost the return on capital you just mentioned of 13.2 cents, what would be the result?

A. It would be 71.12 cents on the basis of my correction of Exhibit 94, and 61.83 per thousand feet on the other basis.

Q. Now, will you take the valuation of Mr. Rowland and others in 1884, on the basis of which the companies were consolidated, add to that the construction account since then as it appears in Complainant's Exhibit 79, and also add the increase of supplies on hand, $616,470.08, and state what total capitalization would be reached?

A. $40,500,454.99, because Rowland's valuation and that on which the companies were consolidated November 11, 1884, was $30,190,419.01 aside from franchise rights, while the construction account since then, according to Complainant's Exhibit 79 in this case, was $9,693,565.09, while the supplies as you stated were $616,-470.08.

By Mr. MATHEWSON:

Q. Your total just given does not include any working capital of any sort, does it?

A. No. I make an allowance for that a little later.

3050 By Mr. BURR:

Q. What would this per thousand cubic feet of sales, and what return per thousand feet would six per cent. and eight per cent., respectively, give?

A. This is $3.05 per thousand feet of sales; and six per cent. is 18.3 cents per thousand feet; and eight per cent., is 24.4 cents. But this 18.3 cents, being a six per cent. return, added to the 57.92 cents above computed, would give a total cost of 76.22 cents; while if 24.4 cents or an eight per cent. return were added it would make 82.32 cents.

Q. If these figures were added to your estimate what would be the result?

A. If added to my estimate of 48.63 cents it would make on a six per cent. basis 66.93 cents and on an eight per cent. basis 73.03 cents.

Q. On an eight per cent. basis?

A. Yes.

Q. Have you made any computation on the basis of the figures presented by Exhibit 80 (page 348), showing the investment in the gas business, or claiming an investment in the gas business of $56,-891,454.94?

A. Yes. Taking the figures from Complainant's Exhibit 80 (page 348), I find that that included investment at Astoria, according to same exhibit, $5,560,000. That I exclude and $2,000,000 due from consumers; they do not have to pay any interest on that; and $50,000 capital of the National Coke & Coal Company, and that is in all a deduction of $7,610,000. Then there would remain $49,281,454.99, which is $3.71 per thousand feet of sales. Six per cent. of this is 22.3 cents, and eight per cent. of this is 29.7 cents. If this 22.3 cents, being the six per cent. return, be added to the 57.92 cents above referred to, the total would be 80.18 cents. If 29.7 cents or an eight per cent. return be added it would make 87.62 cents. On

3051 the other hand, if the same six per cent. return on this amount, namely, 22.3 cents, were added to my computation——

By Mr. MATHEWSON:

Q. 29.7 cents, wasn't it?

A. This is at six per cent. The other was 29.7 cents at eight per cent. If 22.3 cents were added to my computation of 48.63 cents it would make 70.93 cents; and if the eight per cent., or 29.7 cents were added it would make 78.33 cents.

By Mr. BURR:

Q. Now, have you tabulated or summarized these figures.

A. I have and I will number this table 16, and there will be another table to follow that which I have got on the same page. I will put them in together as tables 16 and 17 and refer to them separately. It is table 16 that I am now referring to as being the summary of what has just been stated.

By Mr. MATHEWSON:

Q. Tables 16 and 17, isn't it?

A. Yes. Table 17 would be included as a further summary. I think I had better discuss, perhaps, a little more the table 17. The tables are as follows:

3052 TABLE 16.

Return on Capital.

Basis used.	Per M ft.	At 6% profit.	At 8% profit.
$29,266,757.48, according to Yalden, plus $9,693,565.90, plus $616,470.08	$2.20	13.2c.	17.6c.
$1,000,000 claim for working capital	.075	0.5	0.6
$40,500,454.99, according to 1884 valuation, plus $9,693,565.90, plus $616,470.08	3.05	18.3	24.4
$49,281,454.99, according to Exhibit 80, less Astoria investment, money due from consumers and capital of National Coke & Coal Company	3.71	22.3	29.7

TABLE 17.

Cost, Plus Return on Capital.

	Exhibit 94, less excluded items.		Estimate of Bemis.	
Operating cost	57.92c.		48.63c.	
Capitalization.	Total at 6%.	Total at 8%.	Total at 6%.	Total at 8%.
$29,266,757.48	71.12c.	75.52c.	61.83c.	66.23c.
$30,266,757.48	71.62c.	76.12c.	62.33c.	66.83c.
Including cash on hand.				
$40,500,454.99	76.22c.	82.32c.	66.93c.	73.03c.
$49,281,454.99	80.18c.	87.62c.	70.93c.	78.33c.
The last two lines will read as follows if $1,000,000 now held as consumers' deposits be added.				
$41,500,454.99	76.72c.	83.62c.	67.43c.	73.63c.
$50,281,454.99	80.68c.	88.22c.	71.43c.	73.63c

3053 By Mr. BURR:

Q. What does table 17 show?

A. Well, the first part of the table 17 is the same as I have testified to. My testimony thus far has been in explanation of table 16 and table 17 except the last two lines. Now, the last two lines or three lines of table 17 represent the addition of one million dollars for working capital which is mentioned here as now held as consumers' deposits; that is, nearly all of it is; say some nine hundred and six thousand dollars, I believe the testimony is, is so held. That makes the last two lines read as follows: $41,500,454.99 as the valuation based on the valuation of 1884 plus the addition subsequently made, plus a million dollars and represents then at six per cent. a return of 76.72 cents and at eight per cent. 83.62 cents on the basis of Exhibit 94, with those corrections that have been referred to while——

By Mr. MATHEWSON:

Q. And on the basis of your estimate of forty-eight——

A. I was going to say, on that basis, the last two columns, 67.43 on a six per cent. return and 73.63 cents on an eight per cent. return.

Q. But they are on the basis of your assumed operating costs?

A. The first two columns are not. They are on the basis of 57.92 cents as a correction for Exhibit 94.

Q. Yes?

A. And that did not make any change in your operating cost except to exclude certain items of lamp expenses, miscellaneous in-

come and a slight correction of a cent and a little over on taxes, and reduces the contingent from ten cents to enough to make the average of the previous twenty years, but did not change your general operating expenses at the station or distribution or repairs or anything of that kind. Now, the last line represents the Exhibit
3054 80 of the Complainant, $49,281,454.99, after deducting the Astoria investment, the capital of the National Coke & Coal Company, and two million dollars due from consumers, and add one million dollars for working capital, and that made 80.68 cents on a six per cent. basis; 88.22 cents on an eight per cent. basis, if you start with the slight changes that I have made in Exhibit 94; while on my larger basis of change in that exhibit it makes 71.43 cents on a six per cent. basis, and 73.63 cents on an eight per cent. basis.

By Mr. BURR:

Q. Have you prepared a table on dividends, interest and capitalization of the Massachusetts Companies in connection with the claim of Mr. Addicks and other witnesses for the complainant that dividends of 10 per cent. are allowed in Massachusetts?

A. I have. It is table 18.

This is taken from the last annual report of 1904-1905 of the Massachusetts Gas Commission. It takes up Boston and the seven largest companies outside of Boston, but two of them—Lynn and Lawrence—are omitted in some important features because the Massachusetts report omitted them. The reason of that is that Lynn and Lawrence are not the largest by any means and have a combination of gas and electric light, so that the Commission did not think it easy to separate the capitalization. I have given it as the Commission gives it in alphabetical order. It is as follows:

Dividends, Interest and Capitalization in Massachusetts.

1904-1905.

The five of the seven largest companies outside of Boston,
3055 two—Lynn and Lawrence—being omitted because of lack of data.

TABLE 18.

Name.	Dividends.	Capital, including bonds, per 1,000 sold.	Dividends and interest per 1,000 feet sold.	Feet sold.
Cambridge	10%	2.52	21 28/100c.	439,162,251
Fall River	10%	2.54	20 87/100c.	321,119,341
Lowell	10%	2.23	19 87/100c.	482,088,600
Springfield	10%	2.38	21 69/100c.	311,678,930
Worcester	8%	2.18	20 66/100c.	410,641,700
Lawrence	6%	.....	.....	261,888,830
Lynn	10%	.....	.....	358,776,700
		1905–1906.		
Boston	8%	4.56 (1)	32 8/ 10c. (2)	3,480,000,000 (3)

(1) There are no bonds, but the above item includes 22¢ per M feet sold of Notes Payable unsecured.

(2) The Company on July 1, 1906, reduced the price by 7 15/100¢ to 85¢. On the basis of the business during the last fiscal year ending June 30, the dividends and interest to be divided next year would only be 25 65/100¢, assuming the same cost of operation per M feet and no growth in business.

(3) There were also sold to other companies 432,040,270 feet, but that was not included in the divisor used in computing the line in the table.

Boston was composed of a series of companies then, and I have taken the latest return for 1905 and 1906, not yet in print, but of which I secured a copy of the schedule just received from the company in the office of the Massachusetts Gas Commission. Eight
3056 per cent. was the dividend last year. Their capital was 4.56 cents; and I put in a note that "There are no bonds, but the above item includes 22 cents per thousand feet sold of notes payable unsecured." The dividend and interest per thousand feet sold was 32.8 cents. The number of thousand feet sold is 3,480,000,000. I also state in a note, "There were also sold to other companies 432,-040,270 feet, but that was not included in the divisor used in computing the line in the table."

Now, I have another note for the 32.8 cents, to the effect that, "The Company, on July 1st, 1906, reduced the price by 7.15 cents, to 85 cents. On the basis of the business during the last fiscal year ending June 30th, the dividends and interest to be divided next year would only be 25.65 cents, assuming the same cost of operation per thousand feet and no growth in the business."

Q. Now, in Mr. Addicks' affidavit verified May 12, 1906, in this case (page 84 of the Complainant's supplementary affidavit), he quotes from the Massachusetts laws and states that the effect of those laws is that the price charged by the Massachusetts Gas & Electric Light Company "shall not, except with the written consent of the Board of Gas and Electric Light Commissioners, be fixed at less than cost, in which shall be included not less than five per cent. per annum of its cost." What are the facts in that regard?

Mr. MATHEWSON: Mr. Addicks has not testified here in this hearing as to that, because the statute is a public statute of the State of Massachusetts. What it says is perfectly clear to the Master, or will be, and any of us can refer to it and he can take judicial notice of it without offering it. Is there anything to be gained by having either Mr. Addicks or Professor Bemis put their construction on it in this hearing?

3057 Mr. BURR: As to the Massachusetts situation? This affidavit was used——

Mr. MATHEWSON: That was on a motion before the Court and the only way we could get it in was by means of an affidavit. But the Court can take judicial notice of it here.

Mr. BURR: I want to ask the Professor here if he knows what are the facts as they exist to-day in that connection.

Mr. MATHEWSON: I do not know quite what you mean?

The MASTER: Cannot you bring out the facts you want, if there is anything in the case that they are pertinent to, without referring back to the affidavits on the motion?

Mr. BURR: What I mean to say is that Mr. Addicks was probably speaking of something that existed at the time that he had in mind. I ask now, apropos of these dividends and returns and all of this sort of thing as provided by the Massachusetts law, what is the present law there?

The MASTER: I noticed, when Doctor Marks was testifying that he directed a great deal of attention to various statements in those affidavits. I could not see what pertinence it had here except in so far as there was testimony to the same effect before me. I do not suppose the issues on that motion for an injunction will be tried out again here.

Mr. MATHEWSON: Is that the Municipal statute to which you refer?

The WITNESS: The law has been changed since that affidavit and I was going to quote the latest law.

Mr. MATHEWSON: I ask, is it the Municipal Act to which you refer?

3058 The WITNESS: Yes.

Mr. MATHEWSON: There is an act in Massachusetts providing for what Municipal Gas *Gas* Companies or those owned by municipalities may earn and what they shall charge to depreciation, etc., and it is a public statute.

The MASTER: Why not put it in evidence?

Mr. MATHEWSON: If the Master please, isn't it true that the Federal Court takes judicial notice of the public statutes of all the States?

The MASTER: I so understand it.

Mr. MATHEWSON: I have assumed that and have not offered in evidence public statutes.

The MASTER: I so understand.

Mr. BURR: I will read this to save time:

The law referred to by Mr. Addicks was changed in Chapter 411 of the Acts and Resolves of the last session of the Massachusetts Legislature in 1906 (see Acts of 1906, p. 314) so as to read in substitution of the last clause above quoted:

"Depreciation equivalent to 3 per cent. of the cost of the plant exclusive of all land and any water power pertinent thereto or such smaller or larger amount as the Board of Gas and Electric Light Commissioners may approve * * * No part of the sum therein included for depreciation shall be used for other purposes than renewals, in excess of ordinary repairs, extensions, reconstruction, enlargements and additions."

Q. Now, I will ask you if such rule as I have just read from the Massachusetts law was applied to the New York situation as it is here in this case what would be the result?

Mr. MATHEWSON: What rule?

3059 Mr. BURR: That I just read.

Mr. MATHEWSON: That covers a good many things. Do you mean that rule if you deduct three per cent. depreciation?

The WITNESS: Excluding all land.

By Mr. BURR:

Q. If such a three per cent. rule were applied to New York what would be the result?

A. If such a three per cent. rule were to be applied to New York, bearing in mind that the land was about one-third of the total structural assets in 1884, three per cent. on the other two-thirds would have been equal to about two per cent. on the total, and this two per cent. would not have been very different for twenty years from the total actually spent in renewals, which was about three cents per thousand feet. But the Massachusetts law is not an iron-clad law. It allows the Commission to fix a smaller or larger percentage as the circumstances may require. The law covered both electric light plants and gas, and the depreciation in gas works and especially in water gas works is less than the average depreciation that you find in the Massachusetts plants, which are more largely coal gas, and electric light is a large portion of the investment, too, so that if three per cent. on everything except land was considered a fair allowance, not only for depreciation but for renewals in Massachusetts for all coal gas as well as water gas, and for electric light as well as gas, then less than that would be on that basis a fair allowance for large water gas plants.

Q. Is that all you desire to say upon that subject?

A. Yes, sir.

3060 Mr. MATHEWSON:

Q. You haven't the language of the Act here, have you, Professor?

A. I quoted a certain portion of it and I have it all in my hotel and can bring it down to-morrow. I will do so. I will try to remember to do so.

Mr. Mathewson and the witness now engage in a colloquoy relative to the above Act, which colloquoy the stenographer is directed not to report.

Q. What have you to say as to Professor Humphreys' method of reckoning depreciation for a forty-year period at one-fortieth each year instead of on a sinking fund basis?

A. Mr. Humphreys reckoned depreciation on the assumption of a forty-year life, one-fortieth a year, instead of a sum put into a sinking fund which will equal the total at the end of the forty years. In his testimony and elsewhere he has held that the result would be the same at the end of the forty years in either event, but that to take off one-fortieth each year would be somewhat better probably from the standpoint of the gas company; it would be more convenient in their bookkeeping, and perhaps more profitable, but it would more seriously burden the price of gas or the nominal cost of gas for the first part of the period. Now, that is precisely the time in the period that we do not wish to have it burdened for the reason that in fixing the price of gas it is not being fixed from year to year; it is being fixed for a period of years, and to have a form of depreciation which makes a cost larger relatively the first part of the period than the last

is not, I hold, as just a method to the consumer as a system of computation which is on the sinking fund basis and which does not abnormally burden the consumer the first part of the period.

3061 From the standpoint of the company I agree with Professor Humphreys. There does not appear to be any marked difference, but from the standpoint of the consumer there certainly is a difference, especially in the first years of the period.

Q. Have you prepared a tabulation, Professor, of the figures given as to the valuation of the property of the Consolidated Gas Company, as given by the various witnesses called on its behalf?

A. Yes; and first, as to land, the valuation of Mr. Wheelock was fifteen million——

Mr. MATHEWSON: I am going to read the question again, whether it is worth while to have this witness go into a tabulation for us of what totals are?

Mr. BURR: It is to bring out his conclusion so that the whole thing as a complete statement on his part may be before the Master. It would be idle for me to produce Professor Bemis and have him give all the testimony that he has unless he has arrived at certain results, and he is now about to state the results which he has arrived at.

The MASTER: The objection to this kind of testimony, it seems to me, Mr. Burr, is that it is more properly to be incorporated in a brief or argument, if it is based entirely on evidence already in the case. I should think that unless Professor Bemis gives you his conclusions based on those figures and on independent researches of his own that the brief is the place for that rather than the testimony.

Mr. BURR: But this is the result of his rearrangement of the figures produced by the Company.

The MASTER: If he can detect any flaws in them that he can testify about that is another thing.

3062 Mr. BURR: He has testified, taking the figures presented by the various witnesses of the Company and rearranged them as they should be arranged, in his opinion. Now this is the rearrangement he wishes to present as to the values given by the various witnesses as to the various properties of the Company.

The MASTER: Well, I will allow it to go in, Mr. Mathewson, and give you an exception.

Mr. MATHEWSON: The Master does not, I assume, allow the witness by this ruling to testify what in his judgment value of all the property of the Company is?

Mr. BURR: There is no such intention to ask him that.

The MASTER: As I said the other day, Professor Bemis from the standpoint of a statistician is going to show that there are various errors in the method of getting at your results, independent of any facts of his own.

The WITNESS: Well, the land has been testified to by Messrs. Preiss and Green as $15,895,609 and according to Wheelock (page 1113)—I have forgoten the other pages—$15,651,500. The manufacturing plant has been testified to by Mr. Mayer at—first let me give the larger figure as I did before—testified to by Mr. Addicks as $16,087,428.72.

Q. What was testified to?
A. The value of it.
Q. Of what?
A. Of the plant. But he also stated in his affidavit on notice of motion of the Consolidated Gas Company (page 8) that the present reproduction value was $18,771,000, or $2,683,571.28, higher than he had otherwise testified.

Mr. MATHEWSON: Now I call the Master's attention to the fact that Mr. Addicks in the affidavit mentioned did not state his valu-
3063 ation at $18,771,000. On the contrary he says present value as appears by the affidavits of William H. Bradley and Colin C. Simpson, also cost of reproduction, in a certain figure. Now, Mr. Simpson and Mr. Bradley put in their affidavits what they considered the value to be and he used the total of those.

Mr. BURR: You might add to the question that Mr. Addicks, in his affidavit, basing his statement on the affidavits of Mr. Simpson and Mr. Bradley.

Mr. MATHEWSON: But neither these papers nor the figures are in evidence and have not been testified to by Mr. Addicks and I don't see what the witness is gaining by comparing Mr. Addicks' estimate of the present value with Mr. Bradley's estimate of the cost of reproduction.

Mr. BURR: Do you mean to say all the statements made before Judge Lacombe were idle and unnecessary and not to be referred to hereafter?

Mr. MATHEWSON: No, but I say they are different and you must not put in Mr. Addicks' mouth the estimate of Mr. Bradley and then proceed to say it emanated from Mr. Addicks.

Mr. BURR: That is a mistake. It is the estimate of Mr. Addicks based upon the statements of Mr. Bradley and Mr. Simpson. I will put it that way.

The WITNESS: I prefer to correct it in that way. There is a difference between this $18,771,000 and Mr. Mayer's estimate which I have here at $15,515,578, a difference of $3,255,422. The holders in Mr. Mayer's statements should be added and just about balance them with what has been given in this other affidavit, the holders
$3,600,215. There was only one series of estimates on the
3064 holders. Then mains $12,600,000 was the figure used by Mr. Humphreys in the testimony (pages 2187-8), and Mr. Simpson (page 289), gave it just about the same $12,636,150. The services testified to by Mr. Simpson (page 291) as $1,994,034.35, and the meters were testified to in Exhibit 8 (page 414) as $4,100,000—meters and other personal property.

Mr. MATHEWSON: Mr. Carter subsequently gave the exact figure. That was simply what he had in mind. It was about $4,200,000 slightly beyond that.

The WITNESS: What was you- personal property?

Mr. MATHEWSON: Scows, horses, automobiles and office furniture; but about $3,000,000 out of the $4,000,000 and over was for meters. He gave the exact figure later, the cost of reproduction on the basis

of present prices, and it was not much different from what you have there.

The WITNESS: The total that I have here, and taking Mr. Mayer's figures on plants and holders and the other figures as I have read them and continuing to use $4,100,000 for meters and other personal property as the only figures absolutely at hand at the moment, gives a total of $53,461,327.35. That may be slightly in error but I think it is substantially what the figures total up.

By Mr. MATHEWSON:

Q. And whose figures, if I may ask, in order that we may be clear?

A. Yes. They were the figures on land of Mr. Wheelock; on plant and holders of Mr. Mayer; on mains of Mr. Humphreys; on meters and services of Mr. Simpson—Well, I don't know—services, Mr. Simpson; meters $4,100,000, Carter. A
3065 more official estimate would take Mr. Simpson's figure doubtless on mains because Mr. Humphreys was only attempting to give a rough approximation and Mr. Simpson's were simply $36,150 higher. Perhaps I will use that, which will make the total $53,497,477.35; and if the later testimony gave another $100,000 as Mr. Mathewson asserts, covering meters and other personal property, of course that must be added in, and if we take that as approximately $100,000, that would make $53,600,000 approximately, and I think perhaps I would let it stay at that point now in the absence of any further information.

Now, that is, as I understand it, the inventoried value according to the Complainant's witnesses of the property to-day. Its present value, if I have totaled the figures up from the testimony correctly, and should be compared in my opinion with the inventory of 1884, plus the additions made since then, as given in Complainant's Exhibit 79 (page 347 A); that valuation given then.

By Mr. BURR:

Q. When?

A. For November 11, 1884, was $30,190,419.01. That is the valuation of the physical property without reference to franchise rights, just as the same exists, as it appears on Exhibit 69. Now there has been an increase according to the testimony in this case on the basis of the Complainant's witnesses, from $30,190,419 to approximately $53,600,000 or an increase according to their statements, of $23,409,581. Of this amount they have explained in Exhibit 79 that $9,693,565.90 was charged to construction. Then there remains a difference of $13,716,015.10 which they claim has been the increase
in the value of their property aside from what they nominally
3066 put into construction in the last twenty-one years. Now, if that be the case, and if they are entited to earn interest or profits on that, then to that extent the $13,716,000 must come out of the total that you have nominally spent for repairs and renewals during those twenty years, which I will give in a moment. The total was obtained from State's Exhibit L (pages 415-18). According to that exhibit they have spent for repairs and renewals—I might perhaps have also gotten it if I had thought of it, from this other

exhibit (79), but I have this Exhibit L before me. According to that exhibit, bottom of page 417, they spent for repairs and renewals $16,418,223.03, which appears to have been only up to the close of 1904, and when adding in 1905, which is given. I have the figures of 1905 here; I added them in.

Mr. MATHEWSON: What is the total?

The WITNESS: The total up to the close of 1904 is given on the bottom of page 447 as $16,118,225.03. Now, I add to that for 1905 the calendar year, there are two months overlapping there—two months additional. I find from page 418 the amount $974,289.65, which makes a total of $17,392,512.68. In other words, with the expenditure of $17,392,512.68 chargeable to the repairs and renewals they claim their property has increased in value about $13,716,-015.10, so that of that total increase——

Mr. MATHEWSON: We do not make any such claim at all.

Mr. BURR: If you do not you can show it.

Mr. KIRBY: Then it would appear.

Mr. MATHEWSON: No, it would not. I won't let that pass.

The WITNESS: Then the total increase in value by the entire amount spent for repairs and renewals, $4,676,497.58. That
3067 is on the supposition that the witnesses of the complainant are correct in those valuations in the present valuations. Of course I am taking their testimony for the purpose of this computation as correct, and also assuming, which I do not assume myself—I do not endorse—that they are entitled to earn a return or capitalize any increase which may have been got from appreciation in their land or from the street paving, but for the present purpose I have taken, as I said, their present testimony, and on that basis there is only $4,676,497.58 that was really taken out of the gas business and is not for any purpose now found in the structural values. Now, dividing that by the total sales——

By Mr. MATHEWSON:

Q. That is after eliminating the appreciation of land?

A. That is after eliminating repairs and renewals, which were $13,716,015.10, according to the Exhibit L. Now, dividing this into the 164,076,200,000 feet of sales, during those twenty-one years, gives a figure of 3.46 cents a thousand feet. In other words, on the basis of their claims of the increase in value of their plant then there has been a loss to the company each year that had to be made up in some form, not of 10.89 cents, but only 3.46 cents.

Now, I want to make myself very clear on that. I do not myself believe that there has been any such increase in the value of their property, and if there has, I do not believe such portion of it at least that has come from appreciation in land or street paving can be made the basis of charging for gas. It cannot be capitalized in either Massachusetts or Great Britain.

3068 By the MASTER:

Q. What do you mean by appreciation in land and street paving? Do you mean the increased cost of removing street paving when they have to lay down mains?

A. I may suppose I have one million dollars invested in street mains in a plant that I own. I am selling gas to the consumers, the people of the city. The city decides to pave over my mains and the money for it is raised by taxes paid for chiefly by the people who use the gas, the consumers, and by reason of that paving it would cost two million dollars to duplicate the mains. Have I a right to raise the price of gas to the consumers who have paved over my mains by their taxes, because they have done it. Have I a right to add a million dollars to the capitalization of my gas plant because the consumers through their taxes have put a paving over it? It looks to me absolutely ridiculous, and yet I fully admit that it would cost more to duplicate that paving than originally. There is no dispute as to that. And as to the appreciation in land, I make the remark that there is nothing in the law of England or Massachusetts which allows an increase of capitalization for that appreciation.

Mr. MATHEWSON: You have already said that once, Professor.

The WITNESS: I will add a statement that is new in this case. When a company sells out to another there may be some precedent for capitalizing any increase in the value of the land. That I will not undertake to say. But I remark that I find nothing in the precedents in Great Britain or Massachusetts, and nothing in my own view, and I do not seem to find any theory which seems to justify making the consumer pay any more for gas on that account.

3069 There are other reasons why I have not thought it necessary to allow for depreciation, contingencies and repairs more than 10.89, the experience of the twenty years preceding 1905. One reason is brought out in what I have just given, that the 10.89 cents seems to have been so much more than sufficient. But other reasons appeared in the testimony, for example, Mr. Bradley in his testimony before the State Gas Commission, in page 1548, was asked: "What was the condition——"

The MASTER: Is that testimony in evidence here?

Mr. BURR: He has practically testified the same thing here with regard to the condition of the plant. Is not that what you refer to?

The WITNESS: Yes.

Mr. MATHEWSON: Then why not take it from the present testimony instead of outside records?

The WITNESS: I happened to have this citation here.

The MASTER: Either take it from the evidence here or put that in evidence from which you take it.

Mr. BURR: The point to which the Professor refers I desire to read into the testimony. It is from the testimony given by Mr. Bradley before the Gas Commission:

"Q. What was the condition, Mr. Bradley, of the works and plants of the Consolidated Gas Company when the Company was formed and took over these plants in 1884, if you know? A. They were in good condition. Operating continuously and successfully.

3070 Q. What is their present condition relatively? A. They are in rather better condition now than they were at that time.

Q. Are they producing as much gas as they did then or more? A. Almost twice as much if not quite. Q. And at a higher or lower rate of cost of manufacture? A. Oh, generally, a lower rate."

Q. You may continue, Mr. Bemis.

A. Then Mr. Carter in Complainant's affidavit in rebuttal pages 29-30, says, "Substantially all services included therein have been replaced by services of two or three times the capacity and much more expensive. Plants have been reconstructed and it would lead to a wholly inadequate and misleading result if such assets were taken even at their original cost to their constituent companies plus only additional assets since acquired, leaving out of the consideration the fact that the original assets have been largely changed in character and improved in value without additional charge to capital account since they were so originally acquired. Thus, while complainant's services were valued at $1,034,241.41, being part of said $29,994,000, all complainant's services are now carried on its books at $1,212,071.09, an increase of $177,829.68, in spite of the fact that the gas distributed by complainant has increased from less than four billion feet in 1885 to over thirteen billion feet in 1905. Said $177,829.68 represents merely additional services, and the services existing in 1884 valued at $1,034,241.41 have all been replaced with larger and more expensive services with no addition whatsoever to the capital account, the complainant having expended in the renewals and repairs there, since 1884, the sum of $1,831,-325.99."

3071 In other words, the testimony that has come to my attention since I testified last Winter indicates that the structural value may be somewhat greater than I then thought, while there should be no allowance, as I then gave of three cents extra for extra contingent expenses, and further tends to show that the 10.89 cents has partly gone into construction. Therefore on that basis, 10.89 is a high allowance for the future for all items covered by repairs, renewals, depreciation and contingencies for even that amount in the last twenty years has made their plant according to the testimony in this case, much better than it was before. This instance is the most thorough going one I have ever come across of a presentation of data of the repairs, renewals and depreciation matter for a long period of time, and if we can only be sure that the records are in every way what the complainant's witnesses seem to think they are in this matter, it has a very important bearing on that 10.89 cents.

Q. Have you a statement showing what have been the average expenditures on the items of repairs, renewals and depreciation for the last eleven years as compared with the previous eleven years?

A. I have. There have been twenty-two years covered by the exhibit.

Q. Exhibit 79?

A. State Exhibit L, pages 415-418. Twenty-two years, beginning with 1864 and ending with 1905. I find that during the first eleven years of that period the sales of gas as given in Complainant's Exhibit 85, page 358, amounted to 56,878,689,000 cubic feet, and the

amount expended for repairs and renewals was $6,967,874.39 or 12.25 cents per thousand feet of gas sold. Likewise during the last eleven years the sales were 107,197,511,000 feet and the expenditure for repairs and renewals were $10,424,638.29 or 9.73 cents per thousand feet of gas sold, a reduction from the first eleven
3072 years where it was 12.25 cents, and 9.73 cents is lower than the 10.89 cents which I have used by the amount of 1.16 cents of 1 1-6 cents.

Q. Have you made a study of the effect of price reductions in New York from 1885 to 1905, inclusive?

A. Yes.

Q. And have you prepared a chart upon that subject?

A. Yes. This relates only to the Consolidated Gas Company, and is an attempt to show graphically the changes in price and the changes in consumption each year without any attempt to estimate per capita charges, but simply the absolute changes. The heavy line represents the fall in price from year to year, starting with about $1.70 in 1885 and going down to almost 80 cents in 1900 and coming up again to one dollar. The other broken line represents the increase in consumption in numbers of billions of feet from year to year, and the chief points I notice in that chart are these, that when the price fell from 1885 to 1887 it led to, I think, or was certainly accompanied by, a large increase in consumption, as was indicated by the rise of the broken line. That rise continued, as usually happens in such cases, after the continuance of the reduction had stopped, having got to the lower point, the people more and more used gas. But when there was no further reduction after 1892, there was practically no increase in consumption during the next four or five years. That was undoubtedly, however, to some extent, by another cause, the financial depression. But after 1897, when the price sharply fell to 1900 there was another sharp increase in consumption. When in 1901 the price rose again, there was only a temporary check, a slight check to the increase in consumption, but not a large increase, showing that there are other causes operating to stimulate the use of gas, and which are very much of course
3073 in favor of the company, for it grows largely even without changes in price; simply changes in price precipitate further changes in consumption. Of course, in 1903 came the coal famine, which kept the increase of consumption going, but during the last year the consumption has not been increasing so fast. I infer from that, however, while taking into account other facts we know of the history, that while change in price is not the only factor by any means which affects the consumption of gas, it is one factor, and a factor which can always be relied upon to have a marked influence. And I present this chart, not in conflict but in harmony with what Professor Marks presented. It is intended to confine itself to the one point of consumption, without complicating it, perhaps, with the question of per capita consumption and all the companies. This is for the Consolidated Company alone.

By Mr. MATHEWSON:

Q. I see "Professor Wm. D. Marks" appears on this chart. Was he simply the draftsman or a collaborator in the result?

A. I will frankly state that after I had prepared the chart I consulted with him as to how I could secure a blue print and he had draftsmen at his disposal who were working for the city, I suppose, in this case, who were put at my disposal by Professor Marks, very kindly, to work out the blue print from my figures. I had this same chart, which I showed the Gas Commission a year ago nearly, but it was not in blue print form.

By the MASTER:

Q. Will you explain to me why it appears on this chart that the consumption of gas is *not* the highest when the price is the
3074 highest? As I understand there is the high price, $1.70, and now on the opposite side——

A. That is the low price.

Q. You have sales in billions of feet. According to that you have thirteen billions of sales when the price is $1.70 and only six billions when it is one dollar?

A. When the price is $1.70 you follow down here opposite to this line and the sales are shown to be four billions. These figures, 4, 5, 6, 7, and so on up to 13, are billions of feet, and refer to the broken line, while these figures of price on this column refer to the heavy line, and you have to read the two together. It is a little confusing, but it is about the best way to work it out I could think of. So, if the price was $1.70 the sales were down here in the broken line to four billion feet, each line representing a year. When the price had fallen in 1887, to this point, which is between $1.30 and $1.20, about $1.26, the sales had risen to nearly that point, which was five billion (indicating), and continued to rise rapidly, as is usual with such cases, that the reduction in price is not always felt the first year, but continues to be felt for some length of time; and although the price afterwards remained stationary, yet the consumption continued to increase up to that point.

Mr. BURR: Which point are you referring to?

The WITNESS: To the year 1903. Then there were two causes which——

By Mr. BURR:

Q. You might explain the situation each year as it appears by that chart.

A. Well, that was such a continuous condition that it was about the same from year to year. Now the consumption actually fell off
a little from 1893 to 1895. The odd years are put at the top
3075 and the even years down at the bottom for convenience of those lines, that is all. The falling off was not a natural condition, because I do not claim that that falling off was due to the fact of the price, as the price was not changed much, but there came a depreciation in business in 1893, 1894 and 1895, and anything which affects business more or less affects the use of gas, although not as

much as it does some things; but it did fall off a little and the price did not change much. It fluctuated a little but not much. In 1896 before the depression was hardly over, the price began to fall and it fell very rapidly, until it got down finally in 1900 to a point which was a little over eighty cents, an average of eighty-two or eighty-three cents, I think it was, and then there came a great upward movement of sales. Up to that point, everything looked very natural, but here comes the exception. Here comes the point that looks strange, namely, that when the price came back to $1 as it did after the close of the gas war, that it did not much change the consumption. It did just a little, and then it kept on. But there was another factor that came in here, namely, the coal strike, which had a great effect. But there is another factor which is always operating that there is a tendency in all communities for gas to be used more and more. Granted a stationary price, gas is being more and more used for two or three reasons. It is being used chiefly for heating and cooking, more and more, with the growth of high buildings, as it becomes more and more of a nuisance to bother with coal and ashes, and it is convenient to have it for night and morning, bedroom and bathroom heating; of course, we all understand about those things. So that all that is claimed is that while the normal tendency is for the consumption of gas to increase, and change is only affected by
3076 either depression or on the other hand improved by coal strikes or coal famine or something of that kind, yet working in and through it all, changes in price have a further effect, a reduction in price having a tendency to accelerate the increase that otherwise would occur, and that factor there accompanied with this and then this fact that another decline was accompanied by another big increase, rather, I think, tends to bear that out. That is not the only fact I am going to adduce in that connection, but it is simply one tending to confirm my views.

Mr. BURR: I offer this chart in evidence.

Paper received and marked City's Exhibit 57.

At this point a recess was taken until 2.15 p. m.

After Recess.

The MASTER: Gentlemen, I have to advise you that some of my other affairs are getting so urgent that I have got to give them a little attention, and next week I will have to make some change in our hearings. I have another proceeding in which I have to do some work, and we will have to begin a little later in the morning perhaps and sit later in the afternoon next week.

Mr. BURR: About what hour have you in mind?

The MASTER: This other matter of mine will go on every day next week except Monday, from 10:30 to 12 o'clock, and I thought we would go on here, say, from 12 to 1.30 and then perhaps from 2.30 to 5.

3077 Mr. BURR: Would you prefer to go on from 1 to 6?

Mr. MATHEWSON: That would hardly suit my convenience, as I have to go out of town.

The MASTER: Also I shall have to have a short session to-morrow, as I have to be away to-morrow afternoon. We can go on from 11 o'clock to 1 to-morrow, or at 10.30, if you can go on at that time.

Mr. BURR: We had better make it from 11 to 1, as I have some other matters to attend to.

The MASTER: Then we will go on from 11 o'clock to 1 to-morrow, and next week we will change the hours. And if you gentlemen of the defense find that you are running behind to an undue degree on your time allowance, I will help you out by sitting Saturdays at any time you like.

EDWARD W. BEMIS resumed.

By Mr. BURR:

Q. Have you made a study of the effect of reductions in price in Massachusetts for the last twelve years?

A. Yes, I have.

Q. What do your studies show as to Boston?

Mr. MATHEWSON: I have not any objection to the Professor showing what the results in Boston are, but I think when he comes to say that they are due to the fall in price, that that is a conclusion he ought not to draw. He can state anything that happened.

Mr. BURR: In other words, you differ with his conclusions.

Mr. MATHEWSON: I may materially differ, yes.

3078 The WITNESS: I will present at this time a blue print for Boston, corresponding to the one for New York, arranged on the same basis and giving the changes in price in a heavy line since 1884, and in a broken line the changes in consumption. I would state that the figures at the top of the page representing the odd years and those at the bottom representing the even years should in every case be taken as only the first half of the year. The fiscal year in Massachusetts ends June 30th, so when at the top of the page is the figure 1887, it should be taken as meaning the fiscal year beginning July 1st, 1887, and more properly therefore it might have read, and I intended it should read, 1887-8, and so for every other year, 1891-2, 1892-3, etc., but in the haste of preparation that was not done; but it is clear enough with that explanation.

Now, in another blue print which I will present in a few minutes will be given, I think, the detailed figures; but here it is graphically shown, and it will be noticed that it is for the same period as the table for the Consolidated Gas Company in New York.

Q. You might produce them both and explain them at the same time?

A. I think I can explain this better now.

By Mr. MATHEWSON:

Q. What company in Boston is this?

A. This is a combination from the Massachusetts Gas Commission report of the six companies selling gas in Boston and which have lately been consolidated into one, namely, the Boston, the Brookline, Dorchester, Jamaica Plain, Roxborough and South Boston. It ex-

cludes the Bay State, for that company practically sold no gas except to other companies. This is solely based on the sales to private consumers and the city and is not at all based—in fact, it excludes sales by one company to another, such as frequently occurred
3079 in Boston during that time. I reached my data relative to prices of gas in this way. I took the Massachusetts Gas Commission report, which began at this time when I began my chart, that is, the charts begin with the report of the Commission, and for each year I took the sales of gas in that year for each company to private consumers and added them together, and thereby got the broken or dotted line indicating sales. Now, in getting the other heavy line indicating price, I took the total receipts of each company for the sales of gas to private consumers and the city and added them together, taking each year by itself. Therefore, I would have in one column the monetary receipts of each company and a total. I divided that total by the number of feet sold each year by those six companies, and I thereby reached the figure of a little less than $1.60 in 1885 and running down to 92.2 cents to be accurate, 92 cents, during the year ending June 30th, 1906.

Now it will be observed that there is a very marked relation here between decline in price and increase in sales. As the price fell from 1885 to 1890, the consumption rose; and when the price rose again, as it did from 1890 to 1891, the average price, the increase in sales was checked. When the price again fell in 1892, with the advent of the Brookline Company, and the competition which followed it, so that the price fell from a point near $1.35 to about $1 between 1892 to 1895, the sales rapidly jumped up from a little over a billion and a half to somewhat over two billion and a quarter feet. It will then be noticed that the price remained stationary at one dollar until a year ago. It will be further noticed that the consumption was checked for a little while. There would naturally have been some increase in consumption if it had not been for the depression of
3080 1896-7. Then there came a moderate increase in consumption until the coal famine, and then a rapid increase.

By Mr. BURR:

Q. The coal famine of what year?

A. The coal famine of 1902-3, or the coal famine of 1903-4, about 1903. Then after the famine was over, there came a reduction of sales, partly connected doubtless with the fact that there had been such a rapid expansion, an abnormal and unnatural expansion, the year before on account of the lack of coal. That represents that year 1902-3. Then with the reduction last year from $1 to 92 cents came a jump upward in consumption.

Q. What has been the reduction to which you refer?

A. The reduction was 8 cents during the last year on this chart. Since June 30th, there has been a further reduction from 92 cents to 85 cents.

Q. In Boston?

A. Yes, and it took effect July 1st, but the results of that are not yet to be had.

Q. That is the result as to increased consumption.
A. Certainly. I suppose——

By Mr. MATHEWSON:

Q. It is wholly experimental, and the Company can restore the price to 90 cents at any time it sees fit?
A. Yes. It seems satisfied to let it remain as it is.
Q. It has only just started?
A. It has been in operation four or five months.

By Mr. BURR:

Q. You mean you have no data to show the effect?
A. No, but have no reason to understand that they are going to raise the price.

3081 By Mr. MATHEWSON:

Q. And no effect on net earnings, either?
A. No. This chart then seems to tend in the same direction, very decidedly as the one on New York, showing that where there are no abnormal conditions such as a great depression or on the other hand a coal famine that price reduction has a marked effect on consumption. Now I have prepared for the same City——

Mr. BURR: Before you go into the other chart, I will offer this chart in evidence.

Paper received and marked City's Exhibit No. 58.

The WITNESS: Now I have another chart giving the per capita consumption. This chart——
Q. What does S. C. stand for?
A. That is supposed to stand for State Census. Massachusetts has a State Census.
Q. And "E" is estimated?
A. Yes. They have a census every five years in Massachusetts. A State Census in the years 1885, 1895 and 1905, and the United States Census in 1890 and 1900, and in between is an estimate. The table at the top gives the average price such as I described before and the total sales. The price line is the same as in the previous chart. The only difference in the two charts is that the broken line relates to sales per capita instead of sales in millions of feet, and is a still stronger confirmation of my position as to the striking relation between reduction in price and increase in sales. It will be noticed, for example, that when the price fell from $1.57 at the beginning of the chart in the year 1885-6 to $1.29 in the year 1890-1 that the sales increased per capita from 3,288 to 3,916. When the price rose as it did to $1.36 in 1891-2 the consumption actually fell off
3082 per capita and then when the price was rapidly reduced to $1, which it reached in the year 1895-6 the consumption per capita rapidly rose. Then the price remained stationary——

By the MASTER:

Q. What was the last you stated?
A. The consumption rapidly increased, this line rapidly rose when the price fell.

Q. But what years did you say?

A. From the year—really that is the year 1892-3. From that point it began to fall from the year 1892, the year beginning June 30th, 1891, that is when it began to fall and it reached the bottom in the year 1895-6, the year beginning July 1st, 1895, and when that fell the consumption rapidly increased.

Q. It commenced to rise in 1893 and went up steadily to 1895?

A. Yes.

Q. What about the momentum which always follows an increase? It seems to have exhausted itself in 1895, does it not?

A. Yes. I stated in connection with the other chart when I reached that year that the depression of business beginning in 1893-4 and running on through for three years had a marked effect on consumption or some effect, as it naturally would have. I have been careful to state that the state of business has an effect on the consumption of gas and also on the condition of the coal market, but that the price of gas also has an effect, and a very marked effect. Now the price remaining uniform from the year 1895 until last year, we would naturally have expected an increase, but only a moderate increase per capita in sales beginning June 30th, 1895. As a matter of fact, we do not find any increase but a decrease for three years and then an increase, which decrease I attribute to the depression;
3083 the first part of the increase to the gradual recovery from that depression, and the last part of the increase, just at the very top there in 1903, to the coal famine. Then that peak was followed by a depression which is an indication of the abnormally rapid increase which had preceded it in the coal famine, so that the consumption finally in the year 1904-5 reached the point indicated on this chart next to the last column. Then the fall last year in price of eight cents was accompanied by that very rapid increase of per capita sales of 5,152 to 5,626 feet, in other words, an increase of 474 feet per capita. If we were to draw that chart with reference to a normal condition without change in price and without any coal famine or depression, we would connect by a straight line the peak in the year 1895——

Mr. MATHEWSON: Say you would, not "we would."

The WITNESS: I would, with the condition as it was in the beginning of last year. In other words, it would be a line connecting this peak with that point there (indicating).

Mr. BURR: Specify it, for the record.

Mr. MATHEWSON: The peak of 1895 to the peak of 1902?

The WITNESS: No, with the beginning of 1905 and that point. That peak was abnormal, the peak of 1902-3 was abnormal on account of the coal famine, just as the depression of 1898-9 was abnormal on account of the industrial depression in the earlier period, and the coal famine in the later period somewhat affected it, otherwise there would have been a normal line running from the peak which was reached in 1895-6 to the point at which this dotted line
3084 stood in the year 1904-5. Then the very rapid increase the last year, which means a per capita increase, as I have said, from 5,152 feet to 5,626 feet was connected with the fall in

price from $1 to 92 cents. I believe there would have been some increase without that fall in price, but not as great an increase as occurred. It was much greater than the average increase that had occurred during the previous period when the price remained stationary, which will be noticed from the table, the right hand column of the table——

Mr. MATHEWSON: Is that in evidence yet?

The WITNESS: Everything on this chart, I suppose.

Mr. BURR: I offer it in evidence now.

Paper received and marked City's Exhibit No. 59.

The WITNESS: It will be noticed that the first year when the price reached $1 on City's Exhibit 59, namely in the year 1895-6 the yearly consumption per capita was 4,541 feet. It will be noticed that in next to the last year, that is the year beginning July 1st, 1904, it was 5,152 feet, an increase of only 611 feet in nine years during which the price remained stationary or 67 feet per capita per year. I think that is a fair statement to take because it included both the period of industrial depression and the period of the coal famine. Now compare that——

By the MASTER:

Q. How much did you say it increased in 1896?

A. Only 67 feet per year. It increased 611 feet in the nine years, but that was an average of 67 feet a year. From this point to that point (indicating).

Q. You mean from the peak of 1895——

A. To the depression just before the last reduction in price,
3085 during the time, in other words, when the price remained stationary. Now, I want to compare that with two other periods, first, the period of last year in which the price fell as it did 8 cents. During that period the per capita sales increased from 5,152 feet to 5,626 feet, or 474 feet, about seven times as rapid a rate.

Now, let me compare during the period from 1885, that is the year beginning July 1st, 1885, to the time when the price became stationary, which was the year beginning July 1st, 1895. Now, during that period the per capita sales increased from 3,288 feet to 3,788 feet, a period of nine years, and there *there* was an increase per capita of about the same amount of 500 feet per capita or about 55½ feet per year. Now, these two charts, Exhibits 58 and 59, both relate to Boston and simply tend to confirm the chart I offered this morning with reference to New York.

By Mr. BURR:

Q. In what respect?

A. As to a relation between price reduction and increase of consumption. I have one further point upon that matter which I have here. In the year 1892-'3 when the average price in Boston was $1.35 the sales were 1,645,085,702 feet. In the year 1895-'6 when the price was $1.00, which was only three years later, the sales were 2,325,454,855 feet. And what is perhaps more remarkable is that the receipts in dollars increased, that despite the fall of so large an amount as 35 cents in price——

Mr. MATHEWSON: In 1892-'3 was the average $1.35?

The WITNESS: The price in the year 1892-'3, which appears there as 1892, because it is, as I stated a little while ago,
3086 really only the first half of the year, which is told by the figures at the top—in the year beginning July 1st, 1892, and known in the chart as 1892, the average price was $1.35 and in the year beginning July 1st, 1895, known in that chart as the year 1895, the price was $1.00.

By Mr. BURR:

Q. Referring to City's Exhibit 59?

A. Yes. Now my point is, that despite the enormous fall in price of 35 cents, the receipts in money of these six companies in Boston increased from $2,221,156.07 to $2,325,067.09, an increase of $113,911.02 or a little over five per cent. That is all I have on Boston.

Q. What do your studies show as to other Massachusetts cities in this connection?

A. I here have a table which I would present.

By Mr. MATHEWSON:

Q. Is that the same table which you had before the Gas Commission?

A. Somewhat revised, but the same principle. It is brought up to date.

Q. The same cities?

A. Being brought up to date, it has two or three others, I think. This table is prepared from a study of the effect of every reduction in price in Massachusetts outside of Boston since June 30, 1893, and ending with the last printed report of the Massachusetts Gas Commission for the year ending June 30, 1905. I have compared the price and the sales of gas in feet and in dollars and the profit as reported to the Commission the year before each reduction with the year after each reduction. Any reductions made during the past year have been omitted because the results can only be learned when the next report of the Gas Commission appears next April. I have therefore used the year 1905 to check up any reductions of the previous
3087 year or two. Twenty places and thirty-two cases of reduction have been found in which the reduction in price exceeded eight cents, and I have only attempted to cover those, only such cases have been stated. It is possible that three or four small companies whose reductions have not exceeded ten cents in price may have been unintentionally omitted, but to the best of my knowledge and belief, I have included every reduction exceeding eight cents and certainly, I believe, every one exceeding nine or ten cents during those twelve years, in other words, I have omitted nothing for the sake of proving a point, but have attempted to include everything, and if anything has been omitted it has been purely unintentional.

TABLE 19.

Effect of Reduction in Price in Massachusetts, Outside of Boston, from June 30, 1894, to June 30, 1905.

	Year.	Price.	No. of 1000 Ft. Sold.	Year.	Price.	No. of 1000 Ft. Sold.
Adams	1902-3	$1.80	6,095	1904-5	$1.51	5,261
Attleboro	1902-3	1.51	24,425	1904-5	1.41	25,651
Cambridge	1894-5	1.35	159,004	1896-7	1.16	200,809
"	1897-8	1.14	215,132	1899-0	1.00	276,285
Charlestown	1894-5	1.35	91,421	1896-7	1.24	112,251
"	1897-8	1.21	118,714	1899-0	1.11	135,015
"	1901-2	1.10	145,719	1903-4	1.01	179,799
Dedham	1902-3	1.51	18,898	1904-5	1.22	24,990
Haverhill	1898-9	1.19	91,738	1900-1	1.02	115,457
Lawrence	1897-8	1.28	98,578	1899-0	1.14	138,314
"	1899-0	1.14	138,314	1901-2	1.00	184,257
Lowell	1900-1	1.00	354,986	1902-3	.91	453,294
Lynn	1894-5	1.22	104,261	1896-7	1.08	130,377
"	1901-2	1.00	224,515	1903-4	.90	320,621
Malden	1898-9	1.42	69,506	1900-1	1.21	90,534
"	1899-0	1.32	81,834	1901-2	1.22	109,951
Natick	1902-3	1.73	8,429	1904-5	1.66	10.234
New Bedford	1895-6	1.54	52,200	1897-8	1.31	66,404
Otis Co. (Ware)	1902-3	2.00	5,399	1904-5	1.64	6,090
Peoples	1902-3	1.21	5,999	1904-5	1.04	5,843
Southbridge	1902-3	2.09	3,668	1904-5	1.90	4,593
Springfield	1896-7	1.37	113,369	1898-9	1.26	146,276
"	1899-0	1.26	152,272	1901-2	1.04	197,264
"	1900-1	1.12	168,415	1902-3	1.01	271,832
Webster	1902-3	1.69	5,703	1904-5	1.59	8,087

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Williamstown	1902-3	4.91	1,839	1904-5	1.51	5,261
Woburn	1902-3	1.50	13,073	1904-5	1.40	13,856
Worcester	1894-5	1.29	158,541	1896-7	1.21	200,376
"	1896-7	1.21	200,376	1898-9	1.10	231,038
"	1898-9	1.10	231,038	1900-1	1.00	279,314
		$1.20	3,063,461		$1.07	3,949,334

	Year.	Receipts.	Profits.	Year.	Receipts.	Profits.
Adams	1902-3	11,002.43	2,421.69	'04-5	$13,517.20	$1,209.02
Attleboro	1902-3	36,926.32	14,954.36	'04-5	36,251.19	11,617.51
Cambridge	1894-5	214,898.41	107,344.24	'96-7	233,683.28	91,037.73
"	1897-8	246,202.52	106,180.98	'99-0	275,823.71	103,241.65
Charlestown	1894-5	122,965.24	43,715.24	'96-7	139,016.06	57,153.33
"	1897-8	143,916.96	58,503.29	'99-0	149,274.39	49,461.47
"	1901-2	159,714.17	64,679.58	'03-4	181,632.10	64,886.01
Dedham	1902-3	28,493.18	13,581.32	'04-5	30,853.00	12,039.22
Haverhill	1898-9	109,241.93	52,628.83	'00-1	117,531.13	24,403.45
Lawrence	1897-8	126,547.67	44,282.82	'99-0	157,280.57	43,890.24
"	1899-0	157,280.57	43,890.24	'01-2	185,081.74	36,673.16
Lowell	1900-1	356,469.13	97,706.43	'02-3	411,968.74	126,902.67
Lynn	1894-5	127,251.27	46,212.01	'96-7	141,314.40	31,254.44
"	1901-2	224,967.63	92,478.47	'03-4	289,466.82	114,200.74
Malden	1898-9	98,765.43	44,201.05	'00-1	109,721.32	35,175.22
"	1899-0	108,057.80	48,487.88	'01-2	134,054.32	39,468.72
3091 Natick	1902-3	14,593.26	3,487.99	'04-5	17,021.06	1,480.36
New Bedford	1895-6	80,644.82	38,664.41	'97-8	86,672.80	41,802.72
Otis Co. (Ware)	1902-3	10,793.70	1,980.68	'04-5	9,974.99	Cr. Bal.
Peoples	1902-3	7,280.35	2,061.38	'04-5	6,047.78	680.79
Southbridge	1902-3	7,658.70	3,749.63	'04-5	8,714.65	4,565.80
Springfield	1896-7	155,465.60	61,819.33	'98-9	183,879.57	83,815.46
"	1899-0	191,453.80	86,543.83	'01-2	204,355.56	68,734.23
"	1900-1	189,329.36	69,518.30	'02-3	273,876.95	103,117.49
Webster	1902-3	9,655.68	3,138.36	'04-5	12,894.00	5,470.65
Williamstown	1902-3	9,036.93	4,203.47	'04-5	7,922.83	1,366.10
Woburn	1902-3	19,658.74	6,929.83	'04-5	19,459.09	4,738.66

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ERTICAL IN BOOK

Worcester	1894-5	215,978.95	84,773.85	'96-7	243,400.13	97,179.94
"	1896-7	243,400.13	97,179.94	'98-9	254,645.93	100,341.21
"	1898-9	254,645.93	100,341.21	'00-1	280,349.53	103,063.75
		$3,682,296.61	$1,445,750.64		$4,215,684.84	$1,458,973.74
		Otis Co. Cr. Balance				4,137.26
						$1,454,836.48

3092 The WITNESS: Now it first appears that the price the year before the reduction averaged $1.20 per thousand feet and the year after the reduction $1.07, a reduction of 13 cents or 10.83 per cent. This average price was obtained by dividing the total sales into the total receipts the year before the reduction and the year after the reduction. The total sales of gas in the two years increased from 3,063,461,000 feet to 3,949,334,000 feet or 28.92 per cent. while the price obtained for the gas, despite the reduction in price, increased from $3,682,296.61 to $4,215,684.84 or 14.48 per cent. Still more astonishing is the fact that thanks to the large increase in consumption even the profits did not fall at all but actually increased a trifle, from $1,445,750.64 to $1,454,636.48, an increase of .63 of one per cent.

By Mr. MATHEWSON:

Q. About $9,000?

A. Yes. It will of course be urged that to take care of this increased amount of gas some new capital must have been required. But it is a well known fact in the gas business that an increase of consumption following a reduction in price does not involve a proportionate increase in capital. Very few new mains are necessary and scarcely any new land or buildings, and not even a proportionate increase in the manufacturing plant. The great increase comes in the services and meters, particularly the meters. It will be observed that the consumption of the Consolidated Gas Company according to Complainant's Exhibit 85 increased from 3,942,433,000 feet in 1885 to 13,283,164,000 feet in 1905, or over three fold, and the amount manufactured increased to about 10,000,000,000 feet or or over twice as much, while expenditures on construction according to Complainant's Exhibit 79, increased only from $30,190,-
3093 419.01 on November 11th, 1884, to $39,883,984.91 on October 31st, 1905. This increase of $9,693,565.90 was an increase of less than one-third. This increase of over two-fold in the production and of threefold in the sales with an increase of only one-third in the construction account was larger than usual, but it is the testimony in this particular case with respect to the Consolidated Gas Company. In other words, the amount invested in construction by the Consolidated Gas Company in 1885, according to their testimony was $7.66 per thousand feet and in 1905 only $3, aside from the gas they bought. That is based on sales, even if we add the $616,470.08 increase of supplies on hand in 1905 over 1884, it would only mean less than 5 cents increase per thousand feet of sales. Put in another way, 6 per cent. on the investment in 1885 would mean 46 cents per thousand feet of sales and in 1905 18.3 cents upon the invesment as above computed. The fact then, that the profits in Massachusetts remained stationary or even very slightly increased with a reduction of 13 cents in price can only to a very moderate extent have been accompanied by any necessary increase in capital. The year after the reduction in price these twenty Massachusetts companies, in thirty-two instances, were as well off as the year before the reduction barring perhaps, three to five cents more

required for a return on capital. From this study I draw the conclusion that if the companies can stand a reduction of any given amount, they can stand a reduction of at least eight or ten cents more by reason of the large increase in business sure to follow without any proportionate increase in expenses, always providing of course that the reduction does not go down to the operating cost. If then, the Consolidated Gas Company could stand a reduction to 85 cents on the basis of last year's business, it could stand a reduction to 75 cents on the basis of the business that would surely
3094 come to it during the next two years after the reduction.

Q. What have you found in Cleveland in this respect?

The WITNESS: In that city——

Mr. MATHEWSON: Don't you think we have gone far enough if you take the Eastern Cities? Is there any particular advantage in going to Cleveland?

Mr. BURR: The witness resides in Cleveland and may have some special knowledge with regard to the conditions existing there in this regard that he has been testifying about.

The WITNESS: In Cleveland with their artificial gas at seventy-five cents the consumption in 1903 was about two billion feet or 5,000 feet per capita. With the introduction of natural gas at 30 cents, which is equivalent to artificial gas at 18 cents, owing to the difference in the calorific power, the consumption of all kinds of gas increased from 5,000 to 12,000 feet per year per capita, in three years. To say nothing of the use of gas for manufactures. The consumption per meter which was about 25,000 feet with artificial gas, is about 100,000 feet of natural gas, as I am told by the manager of the natural gas company. If such an increase in the use of gas could come under the extreme conditions mentioned, which of course are more extreme than could be expected in the case of artificial gas alone, it is evident that the theory that no large increase can be expected with reductions in the price and that there will be no increase per meter is based on too narrow a generalization. In other words, the nearer you approach the natural gas conditions the more largely gas will be used for fuel purposes and the greater its per capita consumption. The peculiar feature about reduc-
3095 tion in price is the stimulus it gives also to new consumers along the lines of mains. If the reduction is much below a dollar there is a further stimulus to all consumers to use a larger amount of gas instead of coal.

Q. Is that all you have to say on that subject, Professor?

A. I think it is, on that subject.

Q. Now, in Table 17 I notice you gave some facts about the return on capital and then others upon renewals, depreciation and contingent fund. Have you anything further to say on those matters?

A. Only a sentence or two. There seems to have been accumulated $2,000,000 due to the company from consumers which they might treat in the nature of a surplus.

Q. You mean the company?

A. The company. As against contingencies. This $2,000,000 is testified to in one of the company's exhibits, and I quoted it this morn-

ing. That is an accumulation which they did not testify to in 1884, and therefore it is the product entirely of the last twenty years; further, I would state, that if we ignore, which I do not do, Mr. Yalden's computations, and start with Mr. Rowland's and the consolidation of 1884, then $41,500,454.99 is the largest amount of capitalization that can be estimated on the basis of the increase of construction account since 1884, plus the $616,470.08 of supplies and plus one million dollars for working capital. And as to any further increase in the present value of the plant that can be shown by an inventory in excess of that amount, it has to be divided into two classes: The first class is appreciation in property, either paving or growth of land values, which I do not think can be made a basis for charging for gas, but the other point in which there might be an increase is through their having brought into the plant since 1884 more money than is reported under the head of new construction, namely,
3096 $9,693,565.90. To the extent to which the inventory made showed that more money has gone into the plant than that and now represented by structural value, then to that extent must we deduct from the amount of repairs and renewals during the last twenty years which have not reached 10.89 cents paid for the last eleven years. That will average about nine and one-half cents, I believe. Now, the extent to which the capital account would be increased in that way would be more than counterbalanced by a greater reduction in repair and renewal account so that the maximum that I am able to estimate even on the basis of the $41,500,-454.99 as capitalization, which is more than I admit, but taking that, which is $3.71 per thousand feet of sales, six per cent. on that will leave, as stated this morning, 76.72 per thousand feet, and eight per cent. will leave 83.62 cents; but I have already testified——

By Mr. MATHEWSON:

Q. Added to what figure?

A. That is where the six per cent. and eight per cent. originally were added to the 57.92 cents operating cost, that operating cost being the cost claimed by the Company after reducing their repair account to 10.89, and after excluding lamp account, miscellaneous income and making a slight correction, in taxes but leaving their station costs and general operating costs, distribution charges. But that makes no allowance again for the result of reducing prices on consumption which I have just been testifying about. I think that is all.

By Mr. BURR:

Q. And the maximum figure that you are able to estimate as the cost per thousand cubic feet at the consumers' meter is what?

3097 A. The maximum on the six per cent. basis is 76.72. While with that same six per cent., taking my estimate of what the cost of operation ought to be by revising station cost and general distribution cost, 67.43; both of those being on a six-per-cent. basis.

By Mr. MATHEWSON:

Q. What is that figure 48.63?

A. That was operating cost that I testified about yesterday, and was based upon reducing the station cost reported by them to what the other companies in New York City are doing and applying the cost also of oil prices prevalent in Boston and Lynn. And as to the distribution, reducing their distribution cost from 9.45 cents to 7 cents, which is still higher than the accountants found was the case in Chicago where it was less than 6——

By Mr. MATHEWSON:

Q. Do you mean distribution?

A. I mean distribution and generally what was technically termed in my table "Other Expenses."

Q. Oh, yes.

A. And which covered practically distribution and general expenses, aside from taxes and repairs and depreciation.

By Mr. BURR:

Q. Now, the result of the examination of the books of the Company and the examination of the plant that engineers are to make may give you further light on the subject?

A. Certainly.

Mr. BURR: And so, with that reservation, and the coming in of the reports of the accountants and the engineers, that is all that I have to present through Professor Bemis at the present time.

3098 Mr. MATHEWSON: Has the Professor concluded his testimony? Do you so understand?

Mr. BURR: With the exception that the figures, and the facts that may be gleaned from the examinations that I have spoken of.

The MASTER: He does not say he will, but he says he may, as I understand it.

Mr. BURR: Yes. Of course we do not know what the results are or may be.

Mr. MATHEWSON: The Professor is not testifying on the subject of the valuation of plants, is he?

Mr. BURR: Not as I understand it.

Mr. MATHEWSON: He is not one of the experts for that purpose, is he?

Mr. BURR: I have not called him for that purpose and he will not be called for such purpose.

Cross-examination by Mr. MATHEWSON:

Q. Professor, you say you never have operated a gas plant, or built a gas plant?

A. No, I have not.

Q. And you never have been in the gas business?

A. No.

Q. But you are superintendent of the Cleveland Water Works Company?

A. Water Works, yes. It is a city-owned plant.
Q. That is a municipal concern?
A. Yes.
Q. What is your position in that plant?
A. Superintendent.
Q. What is your duties as superintendent?
A. The general management of the plant in all respects, both the pumping stations and the distribution.
Q. Do you have any charge of the purchase of pipes for the distributing system?
A. Yes.
Q. Directly or through your subordinates?
A. We have a system of advertising for bids and then
3099 I report upon which bid seems to me the best and then it is accepted by the Board of Public Works, which finally makes the award.
Q. You say you testified in Boston in 1905, or was it late in 1904?
A. Well, it was the Winter of 1904-5. My testimony began. I think, in December, 1904.
Q. By whom were you retained in that matter?
A. Jointly by the city and by Mr. Auerbach, the attorney for the Boston *American*.
Q. The Boston *American* is the Boston paper of Mr. William R. Hearst, isn't it?
A. That's right.
Q. And Mr. Auerbach represented that interest, didn't he, in that investigation?
A. Yes.
Q. You also testified before the New York Gas Commission in 1905 and 1906?
A. Yes.
Q. And by whom were you retained here?
A. By Mr. Shearn, Clarence J. Shearn.
Q. And Mr. Shearn is the counsel for Mr. William R. Hearst here, isn't he?
A. I understand so.
Q. And you understand you were retained by that interest here?
A. Yes, at that time, not in this case.
Q. And compensated by them?
A. Yes.
Q. You did not receive any compensation from any other source except that source in New York, did you?
A. No. I did in Boston, as I said. Half of it was by the city.

Mr. BURR: You are referring solely to his testimony before the Gas Commission?
Mr. MATHEWSON: Yes, certainly.

Q. And being so retained you testified really in Boston and in New York in behalf of the Municipal Ownership League which was being advocated by this gentleman, didn't you?

A. I really don't know what you refer to by my testifying in Boston or here in behalf of the Municipal Ownership League. These two cases are those what you mean?

3100 Q. Yes, before the two commissions?

A. That testimony had no relation to any Municipal Ownership movement, so far as I am aware.

Q. Was not the newspaper that employed you instrumental in pushing and advocating the Municipal Ownership League at that time?

A. I have read in the papers that such was the case, but that had nothing to do with my work.

Q. No, you didn't know anything about that? That is a subsequent development, I suppose?

A. I knew nothing of the League at the time I was in those cases.

Q. Have you testified within the last fey years in favor of any Company or in favor of maintaining the price of gas, that you remember?

A. My work has always been for the cities.

Q. And in favor of the reduction of the price of gas?

A. Where it seemed to be justified.

Q. Can you remember any case where you have testified that you have not testified that you believed a reduction was justified?

A. No.

Q. You have been advocating and still are an advocate of Municipal Ownership, are you?

A. In a general way and under general conditions. There are exceptions.

Q. Generally speaking, the municipal ownership of public utilities?

A. Yes.

Q. Including gas companies?

A. Yes.

Q. In making certain computations as to the cost of gas in the City of New York or the operating charges against gas, you have eliminated fixed charges. You found, did you not, that Mr. Addicks and Dr. Humphreys in their computation of the operating cost of gas made a similar deduction?

A. Yes.

Q. So there is no difference between you there?

A. No.

Q. You did deduct for the year 1905 (Exhibit 94) in-

3101 terest on consumers' deposits .39 of a cent?

A. Yes.

Q. Neither Mr. Addicks nor Dr. Humphreys did make that deduction, so that would be a difference of .39 cents between you and them, wouldn't it?

A. Yes.

Q. And you have stated in connection with the suggestion that gas could be manufactured cheaper in New York by the Consolidated than its exhibits show, that if it is not manufactured cheaper than these exhibits show it is due in your judgment to extravagance

or to badly situated plants cut off by city streets. I understood you to say that you were not prepared to charge extravagance.

A. No, I didn't claim that. I did say a third reason. You mentioned two.

Q. What is that?

A. Bad oil contracts.

Q. Oh, yes, but except for the bad oil contracts, assuming them to be bad, there is no claim on your part of extravagance?

A. No.

The MASTER: Didn't he say something besides extravagance? Didn't he say incompetent management or inefficient management?

Mr. MATHEWSON: No, I don't think so.

Mr. BURR: Inferior plants.

The WITNESS: I would say I didn't claim to know positively what the causes were.

The MASTER: Badly managed, I think he said, something of that kind.

The WITNESS: I said in an up-to-date, efficiently managed plant, the cost of it would be less.

By Mr. MATHEWSON:

3102 Q. Well, eliminate for the moment, the oil contract which you have critizised. Are you able to state any other direction or item in which you are able to say the Company has been extravagant or has been incompetently managed?

A. I said labor cost was high, and I said, that as compared with the Central Union, the receipts from residuals were low.

Q. Well, we will take those. Then we have got the oil contracts, labor cost and receipts from residuals.

A. I think I criticized the cost of cartage and labor handling

Q. Then, you do think that the company was extravagantly or incompetently managed in connection with the oil contract, the general cost of labor, the receipts from residuals, the cartage and labor of handling, do you?

A. Either poorly managed, or a poor plant, or poorly situated plant.

Q. Well, which one?

A. I do not undertake to say.

Q. If there is any item of labor, which appears in these exhibits, general labor, exclusive of cartage and labor of handling, which you can point out as extravagant or improper, I will ask you to do so now?

A. I cannot do so until I have the report of the accountants.

Q. You cannot do so from any material now before you?

A. No.

Q. Now, as to labor of handling and cartage, you said that the plants of the company had been cut off by streets in some instance laid out by the city between the plants and the river?

A. Such has been the testimony.

Q. That being so, that would not mean incompetence or extrava-

gance if the expense of cartage and labor of handling had shown an increase, would it?

A. That would relate to the station.

Q. And that would not indicate extravagance or incompetence in the handling of the company?

A. No.

3103 Q. Now, as to receipts from the residuals. Have you any grounds for suggesting that the receipts from residuals indicate extravagance or incompetency except for the reason that you say they are less than the receipts of the Central Union plant?

A. That was my reason.

Q. Have you any other that you can assign?

A. No. There was testimony in this case by George E. Wood, which I quoted.

Q. Yes, we will come to that latter. But I don't think that necessarily indicates incompetency of management. Didn't that have reference to the character of the plant at the Central Union?

A. More or less.

Q. Now, as a matter of fact, if you read the testimony as I understand you to say you did, before the Gas Commission, do you not recall the fact that the Central Union Company manufactures a much greater amount proportionately of coal gas than the Consolidated?

A. Yes, but I only compared the coal gas plants of the Consolidated with the Central Union.

Q. And to get the amount which was obtained for residuals by the Central Union did you take the gas that was produced by the coal gas part of the Central Union, or did you take all the gas which was sold by the Central Union and divide the receipts for residuals by the total output of the Central Union Company?

A. I took the receipts from residuals of the Central Union Company and divided them by the gas made at the coal gas plants, which was 925,000,000 feet. In other words, I took the exhibit which was put in evidence.

Q. You understand that no part of that 925,000,000 feet which was produced at the coal gas plants was sent out to consumers in that shape, do you not?

A. When I say 925,000,000 I may have been mixed about
3104 that with water gas one was 925,000,000 and the other was a little less. Which ever it was I took only the coal gas. The exhibit and the evidence will show what it was, and how many feet there were.

Q. Don't you recall in evidence the statement that the conditions for the sale of coke at the Central Union plant were very much more favorable than the conditions for the sale of coke by the Consolidated plant in Manhattan?

A. Yes, and I made a remark on that. It made a difference of one cent only out of eleven cents.

Q. How did you make the estimate?

A. In the testimony I introduced a table showing how much more the two coal gas plants of the Consolidated would have obtained per thousand feet if they had obtained the same price for coke which was obtained by the Central Union, which was $3.23 per ton,

I think, instead of about $2.90 in the case of the Consolidated plant, and $3.09, or something like that, in the case of the other.

Q. How about the tar and ammonia?

A. The Central Union exhibit did not detail at all those items and so I stated in the evidence that I had not sufficient evidence to go on and itemize the difference in residuals.

Q. You did not take into consideration the water gas tar, did you?

A. You mean the Central Union?

Q. Yes.

A. No, I had no data I said for itemizing the residuals because the exhibits and all there was of evidence in the case did not itemize. But coal gas and tar would have been made also by the coal gas plants of the Consolidated.

Q. I am speaking about water gas tar, Professor?

A. The exhibits separated coal gas residuals in the Central Union from water gas residuals, and I had the total residuals of the coal gas plant. All I mean to say is I did not have any way of
3105 separating the receipts from coke and the amount of coke from tar and ammonia. That is all I meant to say.

Q. Did you not read in the testimony that the Central Union Company was able to sell large quantities of its coke to the New York Central & Hudson River Railroad Company, which was delivered on the cars of the company, which were run into the station yard for that purpose, so that there was no expense in storage or handling or the breakage which is incident to the rehandling of coke?

A. I don't remember fully. I do remember that there was testimony of their selling to that railroad, but I took account of the fact that the delivery of coke by the Consolidated is done for it, and the expenses of the delivery are taken care of by the National Coke & Coal Co.

Q. Didn't you say you didn't know whether that was so or not as to the Consolidated?

A. No, I did know that. I did know that the delivery of coke by the Consolidated to private consumers through the city was done by the National Coke & Coal Company, according to the evidence which I have read in the case, as I understood the evidence; but what I did say was I did not know as to the Central Union, just how they managed their coke question.

Q. If it be true in the testimony as you have read, that a large part of the coke of the Central Union is sold to the railway company, that it is separated right there, and that it takes the coke immediately without storage or handling, that naturally would give a higher price to the Central Union for coke, would it not, than the Consolidated which has to re-handle it, or some of it, or deliver it?

A. But the difference is only one cent. I brought that out in the evidence.

Q. I am not dealing with the degree of difference, but that would make a natural and proper difference in the price received for that residual?

3106 A. So far as the expense is greater, but you cannot say that the entire delivery of coke is by the Consolidated, because as I have read the evidence, the National Coke & Coal Com-

pany does the delivery of coke. They get it, as I understand it, they shovel it into their carts, at the Consolidated works, and I don't understand that the Consolidated has to bear that expense.

Q. But, as a matter of fact, you have read also that the National Coke & Coal Company is a corporation, all of whose stock is owned by the Consolidated and that it is in reality the cartage department of the Consolidated?

A. Certainly.

Q. So that it would not make very much difference whether you said it was sold by the National Coke & Coal Company or sold by the Consolidated directly?

A. Oh, yes, it would in the matter of this evidence, because the price obtained for coke by the Consolidated would be much higher nominally if it was delivering to consumers than it is when it is delivering wholesale to a company that gets it at the yard. While——

Q. Yes, but if the Consolidated received from the National Coke & Coal Company a price for this coke and the National Coke & Coal Company sells it and the amount of net earnings of the National Coke & Coal Company for the year are only $5,000 or $10,000 or $15,000, that would not make a very material difference, would it, in the price which the Consolidated received from the coke, which ever way you considered it?

A. Certainly it would make a difference in the gross price because the difference between what the National Coke & Coal Company charges the consumer and what the Consolidated charges the National Coke & Coal Company must be considerable, it must cover all those expenses of delivery.

3107 Q. Yes, but when you are computing the price at which coke is sold, do you take in the case of the Central Union and in the case of the Consolidated the price which is received from the purchaser of the coke less the expenses of delivering it, or do you take simply gross the amount which is received from the purchaser?

A. In the case of each company I took what I understood to be the price at the yard. In the case of the Central Union, for example, I had only this to go upon, the price at which coke was valued or what was used in making water gas, which was doubtless the coke made in the coal gas plant, and I was able to compute the price of that per ton and that was coke delivered in the yard, you might say. Then when it came to the two Consolidated plants there was in what is known as Exhibit 145 before the State Gas Commission, brought into this case as City's Exhibit 56, and that was the price of the coke of the Consolidated Gas Company of coal gas stations, and that was a price also at the yards, only in this case instead of being delivered on cars as you say it was of the Hudson River Railroad it was delivered to the carts of the National Coke & Coal Company. In either case the delivery was done by other parties.

Q. And when you assume a price of coke you take then, therefore, the price which is paid by the consumer for coke delivered at the yard and you do not deduct therefrom any expenses of cartage or delivery on the part of the seller, do you?

A. In either case I do not.

Q. Then it would make no difference, would it, whether the expenses of the delivery of this coal and coke were paid directly by the Consolidated or whether they were paid by the National Coke & Coal Company and thereby the profit which the National Coke & Coal Company would return to the Consolidated Company were reduced; it would make no practical difference in the result, would it?

3108 A. No, I think not, as I see it now. I think it will make no difference. No difference in the net result.

Q. Nor in what you would call the price received for the coke?

A. There would be a little profit there of the National Coke & Coal, so far as there is a profit.

Q. Slight. Now let me see what figure you take for the coke of the Consolidated Gas Company. Do you take the figure at which the Consolidated Gas Company delivered its coke to the National Coke & Coal Company at the Consolidated yards?

A. I understood that to be what I was doing. I understood that to be the character of the exhibit.

Q. Well, the exhibit, or rather the testimony showed the price at which the coke was sold delivered at the yard to the consumer at wholesale, the price at which coke was sold delivered to the consumer at retail, in the yard, and the price which was received delivering coke by wholesale to the consumer, and the price which was received delivering the coke retail to the consumer outside. Now, which one of those four did you take?

A. I understand I took what appears in City's Exhibit 56, which was the report of the Company as to the price the Consolidated got for the coke; not the price which the National Coke & Coal Company got for the coke.

At 4 P. M. adjourned to October 18, 1906, at 11 o'clock A. M.

Last Exhibits:

Complainant's, 256,
State's, W,
City's, 59.

3109 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, THURSDAY, *October* 18, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Kirby, Mr. Burr.

3110 EDWARD W. BEMIS resumes the stand.

Mr. BURR: Professor Bemis wishes to call attention to some errors in the testimony of October 16, and inasmuch as they concern certain figures, it is better to have them corrected now, so that the cross-examination may be based upon the correct figures.

The WITNESS: I only refer to typographical errors. I have not had time to read over the printed testimony, taking it for granted that it was probably correct; but in a glance this morning at a small portion of it, I find on page 2966, at the bottom of the page, that the cost of cartage and labor handling is put down as $1.29 per thousand feet, when it should have been 1.29 cents. In other words, the dollar mark should not have been there. The same applies to the footing of the last column, which in the printed page is $1.24, but should be 1.24 cents, the dollar mark to be omitted.

On page 2967, about the middle of the page, occurs this question:

"Q. You say that is shown by an expenditure of $132,677.10, as "shown in Exhibit 94, or 24 cents per thousand feet of gas made? "A. Yes."

That should have been not 24 cents, but 1.24, as is also indicated in the figures in the previous table.

Now, having mentioned these two, and I may say there was a place somewhere where I noticed my name was put down as William G. Bemis, that makes me believe that I may find in reading it over to-night other errors which I will have to call attention to to-morrow, but I have not read it through yet to find any others.

3111 Cross-examination continued by Mr. MATHEWSON:

Q. You were referring at the adjournment yesterday to certain comparisons that you drew between costs of manufacture, as you computed them for the Consolidated Gas Company on one hand and the Central Union Company on the other, and you said that you understood that the price for coke which you had assumed was the price

specified in City's Exhibit 56, which was Exhibit 145 before the Gas Commission?

A. Yes.

Q. You know, don't you, whether you took the figures from that Exhibit or not?

A. Yes, I testified that I used the figures of coke employed in making the water gas and computed from that the unit price of coke per ton for the Central Union (bottom of page 2985 and top of page 2986).

Q. You took the price of coke received by the Central Union Gas Company as $3.23 per ton, did you?

A. Yes.

Q. And that was the price at which you say coke was delivered from the coal gas plant of the Central Union to the water gas plant of the Central Union, according to the exhibits in the Central Union case before the Gas Commission?

A. Yes.

Q. Will you point out in the Central Union Exhibit, how you procured that $3.23?

A. In the Central Union Exhibit, which was a tabulation of coal gas and water gas separately—I am looking for my copy of the water gas. It was not put in evidence, the water gas part of the exhibit, but as I copied it from the typewritten exhibit, the statement is made, "coke used 23,155,050 pounds;" then to the right is "$37,381.56," which is also what I think I stated in the testimony. Yes.

Q. In other words, you took the amount of coke used by the Central Union Gas Company in its water gas plant and
3112 divided that into the figures $37,381.56, at which it was carried in the water gas manufacturing statement?

A. Yes.

Q. And the quotient was $3.23?

A. After reducing it to tons.

Q. You understand, do you not, that the Central Union water gas plant receives all its coke from the coal gas plant of the Central Union?

A. I suppose it does.

Q. You haven't any figures as to what the Central Union paid, if it paid anything, in the open market for coke, have you?

A. No.

Q. You haven't any figures as to what the Central Union sold a ton of coke for, have you?

A. No.

Q. And so long as the Central Union sends its mixed coal and water gas out together—as you understand it does, do you not, Professor?

A. Yes.

Q. It sends no water gas or coal gas separately into its mains, but mixes the two and sends that out?

A. That is as I understand it.

Q. The gas that reaches the consumer is a mixed coal and water gas?

A. Yes.

Q. So that it is not of the slightest importance, so far as the cost of this mingled gas is concerned, whether the coal gas plant in turning its coke over to the water gas plant credits that coal to itself at $3.23 a ton or $5.00 a ton, provided it charges the water gas plant at the same figure?

A. I was under the strong impression that in corresponding exhibits of the Consolidated Gas Company the value or price put upon the coke used in its water gas plant was the price at which it was selling the coke to the National Coke & Coal Company.

Q. Well, if you recall the testimony, you will find that Senator Page in his questions raised the question as to whether that was so, don't you remember that?

A. I don't recall it.

Q. And there was quite a long examination of Mr. Carter
3113 on that subject?

A. I don't recall it at the moment.

Q. But, as a matter of fact, it would not make any difference at what price the coke was charged to the water gas plant of the Central Union and credited to the coal gas plant of the Central Union, provided it was charged and credited at the same figure, would it?

A. No.

Q. In the final cost of the gas?

A. Certainly, it is usual to charge——

Q. Therefore, it is not a matter of great importance in determining the cost of the entire volume of gas that the charge of coke to the water gas plant and the credit to the coal gas plant should be an exact market figure, or exactly follow the market, is it?

A. No, but in the absence of testimony to the contrary, it was proper to assume the usual practice.

Q. That is a question, but as a matter of fact, you did assume——

A. The usual practice.

Mr. MATHEWSON: I move to strike that out. You have never been in the gas business, I understand. I do not know that is the usual practice, Professor.

The WITNESS: Well, I meant that was what I had observed in a great many cities in reports to the Massachusetts Gas Commission.

Q. But simmered down, it is this, that you took the figure at which it is charged to the water gas plant and credited to the coal gas plant of the company itself, and not any figure at which the company sold any coke in the market to the New York Central Railroad, or anybody else?

A. I think I so stated in my evidence.

Q. Now, about the Consolidated Gas Company, you say
3114 that in dealing with the cost of coal gas at the 14th Street and 42d Street stations, and in determining the price received for coke as a residual you took the figure which appeared in City's Exhibit 56 at this hearing?

A. Yes. Well, City's Exhibit 56 for the Consolidated, that was not any City's Exhibit. Oh, yes, that is right.

Q. Was that figure a figure at which the Consolidated was selling

its coke in the open market, or was it a figure at which it charged the water gas plants and credited the coal gas plants?

A. I will perhaps answer that better by looking a moment. In that exhibit the total coke sold in the market, which was 114,776.99 tons, was $2.99.

Q. Are you taking now the 14th Street?

A. I am taking all the stations, "Summary of Operations," which is the page preceding the 14th Street, and represents the annual cash receipts from coke, and I find that the total coke sold by the entire Consolidated Gas Company is credited as worth to-day, and as bringing in to-day, as I just stated, $2.99 a ton. I discover on the next page of the exhibit that the 14th Street station credited its coke as bringing in $3.08, and the 42d Street station as bringing in $2.90, and I find that the average of the two is exactly $2.99.

Q. When you say that the 14th Street plant credits itself with bringing in a certain sum for its coke and the 42d Street does likewise, from what sources do you understand these sums were brought in?

A. In the sense you intended it is brought in by Mr. Carter, to my knowledge.

Q. No, let us have an answer. I want to know what your understanding is?

A. I understand that in the exhibit showing the total cost of gas, operating expenses of gas, the Consolidated Gas Company tells the Court that from the total gross cost of coal must be deducted receipts from residuals, and it gives those receipts; and the receipts for
3115 coke were $2.99 a ton, and amounted for the entire company to $343,526.94, less labor of handling; being for the period ending October 31st, 1905.

Q. You understand, then, that that is received from sales of coke in the open market, and not merely transferred from a coal gas station to a water gas station of the Consolidated, do you?

A. I understand it is a transfer from the Consolidated to the National Coke & Coal Company.

Q. Well, very good; not a transfer from a coal gas plant to a water gas plant?

A. That is true.

Q. In other words, you do not understand that the number of tons you have specified as selling for $343,526.94 includes all the coke produced by the company, do you, but only that which it did not use and sold?

A. In the case of the Central Union?

Q. No, in the case of the Consolidated Gas Company?

A. It is the value placed upon the coke used—I was not paying the closest attention to that question.

Q. Well, I will repeat it. (Question repeated.)

A. I so understand it. I understand, however, that it does include the coke transferred from the coal gas to the water gas plants of the same company, so that it includes more than is sold to private consumers.

Q. Now, is there anything there which tells you, or have you any

data from which you can tell what the Consolidated Gas Company received in the open market or from the National Coke & Coal Company, if you put it that way, for its coke, and how that compared with the price which it charged water gas plants for coke transferred from coal gas plants to water gas plants?

A. In an exhibit of the National Coke & Coal Company, which I have not in mind very fully, there is a statement of, I think, the total and entire coke business which the National Coke &
3116 Coal Company receives, and then carts and sells, but I did not make a study of that transaction of the National Coke & Coal Company. I can easily do it.

Q. The question is whether you find that the price at which the company's coke was sold in the open market corresponds precisely with the arbitrary price which was credited to coal gas plants and charged to water gas plants where it was transferred from one to the other?

A. I have not examined to know.

Q. Then you are not able to say whether in the case of the Consolidated Gas Company this rule that you have sometimes found observed as to following the market price in transfers of coke between plants was here followed?

A. No, I cannot. But I found that the 21st Street station in its water gas plant charged itself with an expense for coke at $3.24 a ton; the 44th Street station at $3.35, and the 99th Street station at $1.45 a ton.

Q. And you find that no one of those figures agrees precisely with the average figure at which the company disposed of its coke, do you?

A. I have not averaged it to see.

Q. Well, is it not pretty obvious that it would not come out exact?

A. There was very little coke used, I see, at the 99th Street station, only 568 tons, and at the 21st Street station 16,308 tons, and at the 44th Street Station 5,858 tons. I would no- be surprised by a cursory glance, and which I will take longer to verify if you wish, that the cost, adding all these tons and dividing into these prices, would be about the same. I don't think there would be very much difference. If you wish, I will verify it.

Q. No, it is not worth while to take the time now.

A. It looks to my eye to be about the same.

Q. Do you think it is a safe thing to make comparisons the way you have done as to prices received for coke and criticise a
3117 company because it has not received as much for coke as you think some other company does, and take for the purposes of comparison only the prices at which the company transfers its coke from coal to water gas plants, without investigating what it actually received in the market for that which it sells?

A. But while I think it was not a complete and full study, as I stated in my evidence, for lack of further data, yet it was only involving one cent out of eleven cents of cost, and I presented it as the best I could get on the subject. I will make a further study of the coke question, if it will please you, as to the exhibit, as to the sale in the open market of the National Coke & Coal Company.

Q. So, too, as to the Consolidated Gas Company, so far as concerns its gas; you know it is sent into the same mains and there mingled, before it reaches the consumer?

A. Yes, sir.

Q. And so far as the Consolidated Gas as a whole is concerned, it makes no difference at what price it credits its coal gas plant with coke transferred to water gas plant and charges the water gas plant correspondingly, provided it uses the same figures.

A. In making the exhibit to the Gas Commission——

Q. I am just asking you whether that is not the fact?

A. I would not consider that is a fair exhibit, or that which it purports to be, if it was not giving a market valuation on that coke.

Q. That is not the question, at all. So far as the cost of the Consolidated Gas as a whole is concerned, it makes no difference at what price it credits its coal gas plant with coke transferred to water gas plant and charges the water gas plant correspondingly, provided it uses the same figures?

A. Repeat that again, please.

Q. (Question read.)

A. That is correct, but it makes a great difference in the fairness of the exhibit.

3118 Q. We may not be so artistic, but we are trying to get at the substance. Having made these assumptions as to coke, and the prices received, you presented a table which we have called 8, page 2983-4, and in that connection you say you deduct for oil and repairs—in comparing the Central Union coal gas production with the production of the Consolidated Gas Company's coal gas production at 14th Street and 42d Street?

A. Yes.

Q. Why did I understand you deducted the oil?

A. Because there was a good deal more oil used by the 14th and 42d Street stations, in order, as the testimony has it, to secure a higher candle-power than the Central Union was giving.

Q. Yes?

A. And especially as the Central Union was giving in its coal gas plant, therefore I eliminated the oil to find what the cost was without regard to that element of extra or high illumination. In other words, to bring it down to a coal gas of perhaps 12 or 13 candle-power.

Q. And why did you deduct the item of repairs, which seems to be higher for the Central Union than for the 14th and 42d Street plants?

A. Repairs are somewhat fluctuating in any company from year to year, in a coal gas plant more particularly. Some years they do more of the renewal of retorts than they do other years, and I was endeavoring to find costs, aside from these items.

Q. You will have to assume something for those items of repairs, if you were to make a fair comparison, would you not? Would it not be fair to assume the same cost per thousand cubic feet for each plant on the average?

A. I do that by assuming no cost.

Q. You think it would not be fair to take the cost of repairs as they stand here, where the Central Union is higher than the Consolidated Gas Company?

A. Not without further information. It may be that the
3119 Central Union is spending too much on repairs, or the others too little.

Q. Well, you say that the great difference in the cost of coal gas at the Central Union and at the Consolidated Gas Company's coal gas plants consists in the amount received for residuals, and, secondly, in the labor cost?

A. Yes.

Q. As to the amount received for residuals we have dealt with that subject?

A. Only with coke.

Q. Is there anything else that you desire to say on the subject of residuals?

A. I remarked that the Central Union did not itemize its residuals, so it is impossible to go into it.

Q. You cannot tell how much is received, then, for each one of the various products aside from coke?

A. And I cannot tell what it received from coke as a whole.

Q. Taking the subject of labor, the Central Union, as you say, shows 5.89 for labor, while the 42d Street station shows 11.52 cents, and the 14th Street 7.65 cents. Do you know that the Central Union plant consists of a coal gas plant and a water gas plant under almost the same roof, that is, directly adjacent?

A. I don't know how they are related to each other. I have never visited them. But I know there are two plants that make gas together there, one a coal gas and the other a water gas plant, for the exhibit shows it.

Q. You know they are directly together, don't you?

A. I understand so.

Q. Located adjacent?

A. I understand so.

Q. The same is not true of the 14th Street plant of the Consolidated Gas Company and the 21st Street plant from which it receives its enrichment in oil gas, is it?

A. No, but either the 14th or 42d Street makes as much gas as the Central Union output, both coal and water.

Q. That may be, that is another proposition. Where a
3120 plant like the Central Union has a water gas and coal gas plant situated immediately together, would not the cost of labor naturally be less?

A. The coal gas labor?

Q. Yes.

A. I cannot see why it should. I cannot see, unless you assume they have taken some labor that belongs in coal gas and put it in the water gas in their exhibit.

Q. No, might there not be labor applying to both which might be divided in some proportion?

A. Not any more than where there is a plant making twice as

much gas as the Central Union, there might be economy, but the Central Union had no larger output than the 42d and 14th Streets.

Q. After a plant has an output of something like 700,000,000 feet, there is no further economy so far as cost of production is concerned?

A. Some claim there is and others claim there is not?

Q. What was your opinion as expressed before the Gas Commission?

A. I think the economies are very slight in the larger output above the $700,000,000 feet, but I am not prepared to say that there are none.

Q. You said before the Gas Commission that you thought there would be substantial economies above that figure.

A. I stated that perhaps it was so, but at another hearing I stated that at Astoria, owing to the great size of the output, there would be economies they could not get from the smaller plants.

By Mr. BURR:

Q. That was the testimony of Mr. Bradley also, was it not?

A. I understand so.

Mr. MATHEWSON: I move to strike that out. I don't think that was the testimony of Mr. Bradley, stated broadly.

3121 The WITNESS: I remember distinctly my own testimony, that I did later say something about the economies of the enormous output at Astoria.

By Mr. MATHEWSON:

Q. Did you not testify in the Boston investigation in 1904-5 that after you had reached an output of about 700,000,000 feet, there was no substantial economy by reason of any increase in production beyond that?

A. I don't remember definitely, but it is quite possible. The economies do come chiefly in distribution after that point is reached.

Q. Now, as to this cost which you have referred to as 19.64 cents of coal gas at the Central Union plant, you have referred to some testimony of Mr. George E. Wood?

A. Yes.

Q. You say that he referred to the cheaper price at the Central Union Company as attributable to the Central Union plants as compared with the Consolidated Gas Company plants, for one thing.

A. That was one thing.

Q. Was not his statement in that regard that the two plants were modern plants and located directly together, which made an economy in operation?

A. I don't remember at the moment. It was read yesterday or the day before in the evidence.

Q. Perhaps it may not all have been read. Don't you remember that that is substantially what he said?

A. I don't recall it now.

Q. He said that they received a higher price for coke, you recollect that, and a better market, you recollect that?

A. Yes.

Q. Don't you remember that testimony was given as to the candle power of the Central Union generally?

A. Yes.

Q. Now, Mr. Wood's testimony was as to the cost of the Central Union gas, taken as a whole, wasn't it?

A. Yes.

3122 Q. Do you remember that Mr. Wood gave any testimony as to the reason, if there be one, why the coal gas at the Central Union cost less than the Consolidated?

A. Yes, he did testify on that point.

Q. On the coal gas?

A. Yes, because he referred to the inclined benches of the Central Union as superior to the small benches, which took more coke and had other disadvantages, at the 14th and 42d Street plants, so that was entirely coal gas.

Q. Yes, but was not he dealing entirely with the cost at which the Central Union mixed coal and water gas was produced?

A. Yes.

Q. And were not the questions directed to that?

A. Yes, but in so doing he took up as the evidence of inferiority the coal gas plants.

Q. Well, inferentially, he mentioned certain of the apparatus.

A. Directly.

Q. Well, directly he mentioned certain of the apparatus employed in the manufacture of coal gas?

A. Yes.

Q. But he did not deal with the difference in cost of coal and water gas at that time specifically?

A. His criticisms were all directed to the coal gas features of the Consolidated.

Q. Did he deal with the cost of the coal gas and the water gas separately in his testmony of the Central Union Company?

A. Perhaps not in so many words, but he commented on the coal gas portion of the Central Union as compared with the coal gas portion of the Consolidated.

Q. Did he give any figures of the coal gas as distinguished from the water gas of the Central Union and compare those two?

A. No, he testified that Mr. Carter had the figures.

Q. Do you know what candle-power this coal gas was which was produced, as it appears, at a cost of 19.64?

A. I believe the testimony was not very clear on the coal gas as distinguished from the water gas, but there was testimony on
3123 the gas after it was mixed, and it was said that through lack of a proper inspection in The Bronx the company had not been living quite up to the law, they thought.

Q. We will get to that in a moment, but I am speaking of the coal gas, which stands at 19.64 cents, according to what you have indicated.

A. I believe there was some statement that it was practically a coal gas, with only this slight mixture of oil, and therefore I know it could not have been much above 14 or 15 candles.

Q. I call your attention to the testimony in that case where this reply is given, "The candle-power is not uniform; one month it is 14.27 and the next month it is 13.83, and so on."

Mr. BURR: Whose testimony is that which you are reading from?

Mr. MATHEWSON: The testimony in the Central Union case of Mr. George W. Doane.

The WITNESS: He gives other statements where it runs up to 15.

Q. One month 15.68, month of May, 14.44, April 13.82, March 13.84, February 13.83, January 14.37. And Mr. Doane continued: "I should say I was giving you a fair estimate if I said it was from 14 to 14½ candles."

A. Yes, I remember it now.

Q. So that that coal gas which was unenriched——

A. It was a little.

Q. And costing 19.64——

A. It was enriched by a little oil.

Q. Yes, a little oil, oil to the extent of 1.27 cents?

A. That is right.

Q. Whereas the testimony you found to be that it cost to enrich at the 14th Street coal gas station by oil in order to bring it up to candle power something like ten cents, wasn't it?

A. The oil cost at 14th Street nine cents and at 42d Street——

Q. How much more than nine cents?

3124 A. It was nine cents.

Q. Wasn't it higher?

A. No, the exhibit on page 2984 shows nine cents.

Q. Exactly nine cents?

A. Yes.

Q. Gas made or sold?

A. Gas made.

Q. And this is only 1.27?

A. Well, it was 6.54 cents at 42d Street and 9 cents at 14th Street, and I eliminated those items.

Q. Yes, but I am calling attention to the fact that this was gas practically unenriched or enriched to a very small extent and far below any candle power in which it could be sent out to the consumers?

A. Yes.

Q. Have you taken pains to ascertain what the cost to the Central Union Company was of the gas which it actually sent out to consumers, I mean the cost of production of the mixed gas which was sent out to consumers for the year ending October 31st, 1905?

A. I have not it in mind at the present time. I went over it once I think, but some time ago, and I do not recall it now.

Q. Suppose you take the same exhibit as the one from which you have been testifying—perhaps I can show it to you here. I think it is the same thing, and I ask you if it does not appear from that that the cost of the water gas manufactured as distinguished from the coal gas was 32.79 cents?

A. Yes, I will give you a total of the mixture if you wish.

Q. I have it right here, I think. And it also appears——

A. I have a copy of that here before me.

Q. And it also appears by this exhibit which you have used in your computations that the cost of the entire gas, or mingled gas, per thousand feet sold was 28.94 cents or in round figures 29 cents for that year, doesn't it?

A. Just a moment.

Q. (Handing paper.) Here is what you referred to.

3125 A. I was talking all the time about gas made, and that exhibit shows—let me examine it a minute.

Q. Yes. Take it either way or both.

A. My figures were different from those, and so I am waiting to verify them. This exhibit which I think I have never seen before, this combination gives the total cost as $424,343.02, to which should be added, not any losses on gas sold to the Consolidated Company under the agency agreement, but there should be added only expense at works, $6,403.19, and distribution at works, $4,573.76, making $435,319.97. Now, that divided by the total gas made, both coal and water gas, which was 1,596,410,000 feet, gives 27.27 cents, which should be compared with City's Exhibit 56 which——

Q. I have not got to that point. Let me ask the questions and you later will have an opportunity if there is anything you want to explain. I am simply trying to get at certain facts now.

A. Well, per thousand feet of gas made——

Q. Now you said something about there having been no inspection in the Borough of The Bronx?

A. I said that was the testimony.

Q. Now you understand the laws to have been, prior to July 1st, 1905, when the 22-candle-power law went into operation, that there should be inspection as to candle-power and perhaps in other respects in the various boroughs?

A. Yes.

Q. Do you remember the testimony of Dr. Love, the city chemist that there was no inspection in any borough except in the Borough of Manhattan for candle-power?

A. Yes.

Q. And do you understand that the Central Union operated entirely in the Borough of The Bronx, don't you?

A. Yes.

Q. And you remember the testimony of those who represented the Company, conceding before the Gas Commission that the

3126 Central Union Company did not maintain the candle-power of even 20 required by the law, don't you?

A. I don't remember that it did not maintain—that there was any evidence as to what its candle-power was, but there was some suspicion thrown upon it.

Q. Was it not stated in evidence that they did not maintain the candle-power required by law?

A. I don't recall the evidence on that, but I recall the statement that it was not believed that they did.

Q. Yes, it was not believed by the officers of the Company who testified that they did.

A. I understood them to say that they did not think they did, but I do not remember any exact evidence on it as to what the candle-power was.

Mr. BURR: Have you got the evidence there, Mr. Mathewson?
Mr. MATHEWSON: Yes, some of it.

"*Q.* By Commissioner SHEDDON:

"Q. Then it was quite evident to the Company that you were not complying with the law along the distributing districts at that time? A. I think if the law had been strictly interpreted requiring a test to have been in the remote districts, it would have been found so."

And don't you remember there was further testimony in the Consolidated Gas Company's case by Mr. Addicks that the candle-power was not maintained?

A. Yes, there was a charge made by other witnesses, but there was no test offered.

Q. There were no tests offered, but as you recall the testimony was it not made quite clear that the Central Union Gas Company was not complying with the requriements as to candle-power in the Borough of The Bronx?

A. What you have just read is quite in line with what I recall, that in remote districts the President doubted whether they were fully complying with the law. The exact sentence that you
3127 read on that point, of course, was in evidence, there is not doubt of it. I don't remember anything any stronger than that.

Q. Do you know whether the Company in The Bronx maintained even 20 candle-power a mile from the works at any time?

A. I know nothing except the testimony there, and that is not positive and relates only to a remote distance from the works, as you read it.

Q. I will read this question:

"Q. So this cost then would not represent the cost of this gas even to the Central Union Gas Company at the candle-power which was maintained by the Company? A. That is true."

Mr. BURR: Whose testimony are you reading?
Mr. MATHEWSON: I am reading the testimony of Mr. Doane, I think.
Mr. BURR: Who is Mr. Donae?
Mr. MATHEWSON: Mr. Doane was the gentleman who appeared and testified in behalf of the Central Union Gas Company in the case before the Commission.
Mr. BURR: He is the president, is he not?
Mr. MATHEWSON: I cannot say whether he was the president, but he was their representative there and knew what he was talking about.
Mr. BURR: That testimony was given by him in the proceeding before the Gas Commission?
Mr. MATHEWSON: Yes.

Q. Now we will assume that instead of maintaining 22½ candle-power which you say was the average of the Consolidated Gas Company during this period, that the Central Union Gas Company maintained 17½ candle-power on the average, or 5 less.
3128 What difference would that make in the cost of the gas, the cost of the production?

A. That would make a difference, of course, of about a gallon of oil.

Q. And that would mean about, say, 4¼ cents, would it not?

A. No, about 3¼.

Q. No, I am speaking about the prices paid in New York.

A. According to the testimony it would make 4——

Q. 4¼?

A. No, not at that time—during that period——

Q. 4.08 cents?

A. 4.08, yes.

Q. Now, if you added 4.08 to 27.27, which you think is the cost of the Central Union gas according to their exhibit, that would mean 31.33, would it not, that assumption being correct?

A. 31.35 on those assumptions which I do not assent to.

Q. Well, you don't know whether it is so or not?

A. No, but the evidence does not indicate it.

Q. The evidence indicates there was some difference between the candle power maintained by the Consolidated Gas Company and the Central Union?

A. Yes.

Q. How much it was you don't know?

A. But testimony indicating it in remote districts would not indicate a difference of more than one candle power necessarily.

Q. Well, it would indicate that 27.27 cents for the Central Union gas must have been increased by some amount if it had kept up to the standard maintained by the Consolidated Gas Company?

A. But I have never claimed that the water gas plant was any more efficient than the Consolidated Gas Company. It was only the coal gas I took——

Q. (Question repeated).

A. Yes.

Q. Now, I want to show you Exhibit 171, for the four months ending October 31st, 1905, that is beginning with July 1st, 1905, at which date the inspection of the companies was extended
3129 to all boroughs. It appears by this Exhibit 171 that the cost to the Consolidated Gas Company of the Central Union gas was how much?

A. First let me state that this is not the cost I have been talking about.

Q. I understand that.

A. It is the cost plus ten per cent.

Mr. BURR: The Exhibit 171 to which you refer is an exhibit before the Gas Commission?

Mr. MATHEWSON: It is offered in here.

The WITNESS: It is what the Consolidated Gas Company paid for the gas.

Q. That is exactly what I showed.

A. And it shows 35.47 as a total for all the companies.

Q. What does it show that the Consolidated Gas Company paid the Central Union Gas Company for the gas delivered for those four months?

A. 34.35.

Q. Those were the only four months under the present candle power law which were included in the nominal year ending October 31, 1905, were they not?

A. Yes.

Q. If you should divide 34.35, which was the amount paid by the Consolidated Gas Company to the Central Union, by 1.1, it would indicate the cost to the Central Union of the gas delivered, would it not?

A. Yes.

Q. Because the Consolidated Gas Company paid the cost of labor and material plus ten per cent.?

A. Yes, it would make substantially that.

Q. That would mean something over 30 cents for cost, would it not?

A. Yes, about 31 cents.

Q. That would not differ very substantially then from the cost to the Consolidated Gas Company of its water gas, would it?

A. But it does not prove anything on the coal gas.

Q. That may be. What it proves, the Master and the
3130 counsel are to argue. What was the cost according to your figures to the Consolidated Gas Company per thousand feet of gas made at its water gas plants for this year ending October 31st, 1905?

A. I give it, do I not, in the testimony?

Q. I think you did, yes, but I thought you had Exhibit 56——

A. I will turn back and see how I gave it here. Because I had summarized the three, 31.29 cents for the three, 29.78.

Q. Then the cost of the Central Union production would be, as I figure it, dividing 34.35 by 1.1, 31.33, which would be practically identical with the cost of the water gas to the Consolidated Gas Company?

A. Those figures would be practically identical, yes.

Q. Now, let me call your attention for a moment to the costs to the Standard Company and the New Amsterdam Company of the gas manufactured by those companies. You said for the year ending October 31st, 1905, for the Standard Gaslight Company it figured up how much, according to table 4?

A. Table 7, isn't it, page 2078? 20.23 cents.

Q. Yes.

A. It is the same table.

Q. That would be about a cent less than it cost the Consolidated Gas Company at their plant, would it not, for the same period, according to your computation?

A. Yes, but it was higher candle power.

Q. Higher average candle power you found?

A. Yes.

Q. Now, taking the New Amsterdam you found the cost was what?

A. 29.01 at the bottom of page 2978.

Q. And those differences you stated you were not able to explain?

A. No.

Q. Now, is it not known to you that the New Amsterdam Company has a water gas manufacturing plant in a single location where its production is concentrated, as against several water gas plants of the Consolidated Gas Company?

3131

A. It is only a trifle larger than the 21st Street plant. It made 20 per cent. more gas only than the 21st Street plant.

Q. Yes, it did make more.

A. And the 21st Street plant was the most expensive of the three of the Consolidated Gas Company.

Q. Yes, the largest plant the most expensive of the three?

A. That would tend to confirm your theory that there is not much difference in expense after you reach a certain point of manufacture.

Q. Yes, it would not only tend to confirm my theory, but would tend to confirm the theory you enunciated in Boston?

A. Yes, if I did enunciate it.

Q. Well, have you any doubt that you did?

A. I think you stated it correctly a little while ago, substantially, that I did not think it made any difference after you reached 700,000,000 feet. I think I said it at that time, and I still believe it. I qualify that, however, where such a large and scientific plant is erected as is contemplated at Astoria.

Q. Yes, I understood you enunciated the general proposition, but when you came to us you made us and exception.

Mr. BURR: Well, you are attempting to build what is the largest plant and the most economical plant in the world.

The WITNESS: Yes, the fact that it is the latest and most up-to-date ought to give it advantages.

Q. Don't you know, Professor, that it is impossible for two companies manufacturing the same kind of gas in the same city to produce gas exactly the same price at the holders?

A. It would be quite unusual to have them reach that point.

3132

Q. You know for instance in the City of London that the companies there, the three metropolitan companies produce gas at substantially different prices at the holders, each one presumably doing its best, don't you?

A. There are differences and there are also differences in candlepower. I have not them sufficiently in mind now to discuss them on that point.

Q. But you would not expect, taking the three gas companies operating in the City of New York or any other great city, that all the companies would produce gas at precisely the same figure at the holders, and you would presume, would you not, that there might be a difference of a cent or two in the cost of production?

A. Yes.

Q. Did you not find in the City of Chicago that of the two companies, the People's and the Ogden Gas Company, that there was a substantial difference in production in the cost at the holder?

A. So reported by the companies, but when the accountants came to investigate I did not see any report from them about the smaller, or the Ogden Company. But in the report made by the companies there was a difference.

Q. Well, according to the reports of the companies the Ogden Company which produced a smaller amount of gas had a smaller cost of production to the holder than the Peoples' Company, which produced a larger amount of gas, didn't it?

A. Yes, but part of that cost to the Peoples' Company is what it bought from subsidiary companies known as the Universal Company, the company at Cicero and one at Evanston.

Q. And on the other hand, although the Peoples' Company had sales of something like eleven billion feet nearer the Consolidated Gas Company than any other company in the country, you found their cost of distribution was less than the cost of the Ogden?

3133 A. I did not find anything, I simply read in my testimony what they had stated.

Q. Well, that was the statement there?

A. The statement they made.

Q. So far as anything appeared, that was the fact?

A. So far as they stated, but the accountants state the cost of the Peoples' Company, and did not make any report so far as I have learned about the Ogden, so I don't know how it was left. To the best of my knowledge and belief, no report was made about the Ogden.

Q. You have referred to the fact that the New Amsterdam and the Standard Companies had an average candle-power of 23.38 and 23.73?

A. Page 2995, 23.38 for the New Amsterdam and 23.73 for the Standard.

Q. And for the Consolidated 22.5?

A. Yes.

Q. It would appear from that, would it not, that the Consolidated Gas Company has been making greater efforts to keep within the law at an economical rate than those other two companies?

A. Well, I have been told by attorneys that there is a special law relating to either the New Amsterdam or the Standard, requiring 25 candle-power, but I have not verified it.

Q. Well, if they maintained 23½ candle- power, your assumption would not be that they maintained that so as to comply with that law, would it?

(No reply.)

Q. You read Dr. Marks' suggestion that the Consolidated Gas Company was maintaining an extravagantly high candle-power?

A. That was during the last part of the year 1905, as I understood him to say.

Q. You heard him testify that to maintain 22 candle-power it was

not necessary to maintain an average of 24 candle, which the
3134 company was maintaining, but only 22½, didn't you?

A. I did read that testimony.

Q. Well, do you know what the standard of candle-power is in Boston, the legal required standard?

A. 18 in Massachusetts, I think.

Q. Is it not 16 in Boston?

A. Yes, 16.

Q. Do you know what candle power the Boston Consolidated is maintaining?

A. Yes, about 19.

Q. In other words, about 3 candles on the average they maintain, over the legal candle power?

A. I don't understand they did it to obey the law.

Q. What do you understand they did it for?

A. To compete better with electricity.

Q. To please their customers?

A. I suppose they consider it a good policy.

Q. As a matter of fact, they do maintain about 3 candle power above the standard?

A. Yes.

Q. When you speak of the average being 22.5, for the Consolidated Gas Company, and something over 23 for these other companies, you mean what?

A. I mean that these were the averages as given in table 10 of Dr. Love's tests.

Q. How often do you understand the tests were made, from which those averages were taken?

A. Prior to July 1st, 1905, they were only made about once a week, perhaps twice a week on some occasions. After July 1st they were made every day and are so made now every day.

Q. You understand that the law imposes a penalty on the company, not if it fails to keep up an average, but if it falls in any instance below 22 candle power, don't you?

A. I saw that quoted in one of the affidavits of the Complainant, yes.

Q. In your examination of the tests of Prof. Love subsequent to July 1st, 1905, did you find that in spite of the average that the Consolidated Gas Company maintained, yet, on various occa-
3135 sions, the candle power has dropped to 22 or very close to it?

A. Yes.

Q. You know that Mr. Addicks and Mr. Bradley are gas engineers of experience and standing, don't you?

A. Yes.

Q. Of long experience?

A. Yes.

Q. And you know of no reason, do you, why they should expend money to reduce the profits of the company by maintaining a higher candle power than they thought was necessary to comply with the law?

Mr. BURR: I do not think that is material.

The MASTER: It is fair cross-examination.

Mr. BURR: Exception.

A. I think I do.

Q. You think you know why they should maintain a higher candle power?

A. I think I know why they might maintain it or a reason that might influence them.

Q. Do you know why they did?

A. I don't know their minds, but I can understand a motive.

Q. I should be pleased to have you state it.

A. To make the cost appear as high as possible in this investigation, because this year is to control for probably the next five or ten years.

Q. Have you taken pains to examine the candle power of the Consolidated Gas Company for years before this, when the standard was 20?

A. No.

Q. Don't you know that the excess of candle power over 20 which the company maintained on the average before this inquiry took place was just as great as the excess which is now maintained over 22 candles?

A. No, I have not gone back at all.

Q. It seems to me before I made a suggestion of that kind I would have gone back.

A. I did not make it except as you asked me on cross-
3136 examination. I do not consider that dishonorable. I am not charging them with doing anything dishonorable.

Q. I might differ with you. I don't know about that.

A. I do not say that that is their motive. I did not say that. I said I could conceive of that motive. I do not claim to read their minds or know what they are trying to do.

Q. No, but it would have been quite easy for you, these tests being public records, to have satisfied yourself on that point if you had any suspicion that a proceeding of this kind was contemplated?

A. Well, I have thought of it, but I have been so busy night and day that I could not do it.

By Mr. BURR:

Q. You don't know what their instructions were?

A. No.

By Mr. MATHEWSON:

Q. Mr. Addicks is president of the Company and does not get instructions, he gives them. Let me ask you another question before we take up the subject of oil. We have now taken the subject of residuals and cartage and labor and handling which you state might be due to the cutting off of the plant by the public streets for which the Company is not responsible, and I want to ask you a general question as to labor. Don't you recall that before the Gas Commission the subject of labor was quite extensively gone into and the Company was asked to produce a statement showing the men em-

ployed at the different plants and the number of different classes and the wages paid to each?

A. Yes.

Q. And don't you remember examining those and testifying that you found the charge for labor was not excessive and that
3137 you found the charge to be less, as it seemed to you than paid in Chicago?

A. I think I stated substantially that.

Q. So that so far as you can observe or have observed from an examination of the Gas Commission's testimony or the testimony here, there is no instance in which you could criticise the figures paid for the various classes of labor?

A. Labor cost per thousand feet may be high without any individual laborer getting more than the ordinary rate.

Q. Well let us take that phase of it. Are you prepared to say that in your opinion at these plants the Company is employing more men than are required to do the work efficiently in the face of Mr. Bradley's testimony that no one is employed that is not necessary?

A. More men than would be required in an up-to-date plant, I maintain, especially in the coal gas plant.

Q. But so far as the water gas plants are concerned you understand that they are up-to-date, from the testimony in this case?

A. I have not seen the plants, but the testimony of the Company is to that effect.

Q. Now as to the coal gas plants, supposing you were to install charging machinery at one of the plants of the Company where it is not employed, that would mean an expense for machinery which would be added to capital?

A. Yes.

Q. And that would mean additional repairs, would it not?

A. Yes.

Q. When a man wears out, we do not have to pay for his repairs, but get a new man at the same price?

A. Yes.

Q. So there would be offsetting charges, if machinery of that kind were put in?

A. Yes, but Mr. Wood seemed to think on the whole the plants were inferior at 14th and 42d Streets.

Q. But so far as the plants now stand and operated as they
3138 are, you are not prepared to say that any more men are employed to operate those plants than are required to operate them efficiently?

A. I am not prepared to state. I have not had opportunity, in the first place, to study it.

Q. Not being a gas man, perhaps we might doubt your qualification to state, any way. Now, taking up the cost of oil which is the one item left in manufacture, you say that the Boston Gas Company for the year ending June 30, 1906, paid 4.01 cents for oil. Where did you get that information?

A. From the return of the Boston Gas Company, the Consolidated

Gas Company it is now called, to the Massachusetts Gas Commission, for the year just ended, June 30, 1906.

Q. Have you a copy of the return here?

A. Yes.

Q. Will you let me see it?

A. There it is (indicating).

Q. This appears under the heading of average cost per gallon of each kind used at the works, and under that I find naphtha 5.52 cents, other oils 4.01 cents. What do you understand they mean by naphtha?

A. Naphtha is a test above 60—60 to 90. It has been testified to in this case.

Q. Well, do you know what test oil you can get for 5.52 cents in Boston, do you know what test that is actually?

A. I only know what one of your witnesses, I think Mr. Addicks, testified in this case as to what test of naphtha was used—there was very little naphtha used—you know how much percentage of naphtha was used.

Q. I have not got to that point. I am simply asking as to naphtha. Naphtha runs from 12 to 13 cents a gallon or more?

A. Yes, 13 cents, I believe so.

Q. Naphtha is the motive power of most of the automobiles?

A. Yes.

Q. And sells as high as 25 cents a gallon, doesn't it?

3139 A. Yes. The price of the other oil is given here as 5.52 cents for that oil, but there was only one-half of one per cent. of all the oil which was of that character.

Q. Well, you were not quite accurate then in saying that the Boston Company used all 34 gravity oil?

A. I was wrong to the extent of 1 in 200.

Q. Well, where do you find the statement here that they use nothing but the naphtha and 34 gravity oil?

A. I do not find it there except by inference, as far as finding it there is concerned.

Q. Nothing in the report then which supports your statement to that effect?

A. No.

Q. Where do you get that information?

A. From official authority.

Q. What was the official authority?

A. A letter from an official connected with the company.

Q. Who was he?

A. It was not a letter calling for secrecy or confidence, at the same time I don't know whether—if The Master rules that I shall give it, I will. It was a high official of the company. I will show the letter to the Master if you wish it.

The MASTER: I have no curiosity about it, but if Mr. Mathewson wants it, he is entitled to have it.

Mr. MATHEWSON: I should like to see the letter.

The WITNESS: Well, from President Richards. (Witness produces letter.)

Q. Now, he states, "The test of the oil at both stations shows prac-

tically 34 degrees." Do you know whether that as used in the gas business would refer to a 34 test oil Beaume?

A. I wrote him asking him what it was, Beaume test, and that is his reply.

Q. You notice this, "Third. So far as we know we do not use any Texas oil?"

A. Yes, I asked him that question.

3140 Q. You referred to the nearness of New York as compared with Boston to the Texas oil field in your testimony?

A. Oil of 27.28 degrees in Texas oil, and I asked him whether they were using any of that and he states they were using nothing but 34.

Q. So if New York was in the same category as Boston it would not be of much importance whether they were nearer Texas or not?

A. But New York is using Texas oil and Boston is not.

Q. The Texas oil you call 28 degree?

A. The Texas oil is 28 degree.

Q. Is any of it 28 degree and over?

A. I have been told so by oil companies.

Q. Now do you notice this "The average candle-power of water "gas made at our Calf Pasture Station for the year ending June 30, "1906, was 23.13, and at our Commercial Point Station for the same "period 22.7."

A. Yes.

Q. And you found that it reaches the consumer at about 19 candle-power, you stated?

A. The return which they have shows that the average of all the tests, which means of the tests of water gas when mixed with the coke oven and coal gas, is 19.37, as you will find here in this record in copy of the return of the Boston Consolidated Gas Company to the Board of Gas and Electric Light Commissioners of Boston for the year ending June 30, 1906. On page 19 is the statement that the average candle-power of gas as determined by the said Board is 19.37, but that is after this water gas is mixed with the coke oven and coal gas.

Q. That is what I was going to call your attention to. It is not the fact that this Calf Pasture or Commercial Point gas to which I have called your attention is delivered to consumers at anything like that candle-power?

A. No. 19.37.

Q. It is used to enrich other gas, or other gas is used to

3141 dilute this, and after they mixing it averages 19.37 candle-power when it reaches the consumer or when it reaches the testing station?

A. That is right.

By Mr. BURR:

Q. The writer of this letter is the president of the Boston Consolidated Gas Company?

A. He is.

Q. J. L. Richards?

A. Yes, and the letter is dated October 4, 1906. It is a letter to

me in reply to a letter of inquiry. I made no request or suggestion of confidence or secrecy in the letter, but I did not intend to use his name save as the Master ruled I must.

By Mr. MATHEWSON:

Q. You testified before the Gas Commission that oil was higher in the East than the West?

A. I may have testified. I don't remember now.

Q. Well, don't you remember whether you did or not?

A. I know it is higher in the East than it is in the West.

Q. And you testified before the Gas Commission that your information was that it was about 4 cents in Cleveland, didn't you?

A. Yes. It is not that, I have found since. It is lower than that.

Q. Then you are mistaken in that regard?

A. Yes.

Q. Do you know what it costs in Cleveland?

A. I have a memorandum to that effect from the company but I haven't it in mind at the moment. I can tell you to-morrow if you wish.

Q. And didn't you also a year ago in your testimony before the Boston Gas Commission see the contract with the Boston gas companies for their oil?

A. Yes.

3142 Q. And didn't you find that it was 4½ cents per gallon as against 4.8 cents per gallon which the Consolidated was then paying?

A. No.

Q. Didn't you?

A. No.

Q. Did you find then it was 4.49 cents per gallon in Boston or a little lower?

A. That was the average price for the year ending June 30th, 1904.

Q. That was the lowest period which you had in mind?

A. Yes, but we are now talking about a period of two years later, the year ending June 30th, 1906, when the average price was 4.01 cents. It was 4 cents on one oil and enough on naphtha to make it 4.04.

Q. Well, if you were in error in your testimony that is another proposition, but I am asking you whether you did not testify before the Gas Commission here last year, or within the year that you had testified in Boston but a short time before, and that you found that the price which the company was then paying for oil was a little above 4.49 cents?

A. I think so, but that related, and my testimony in Boston related, to the last year for which I was permitted to testify. I was allowed to see all their contracts under the conditions that I should not testify as to the exact prices.

Q. Well, the later contract that you were permitted to see and respecting the exact price of which you did not testify, showed over 4.49 cents, didn't it?

A. No.

Q. It did not?

A. No. My testimony related to what was paid during the year for which I could testify, which was the year ending June 30th, 1904. Now, of course, I will not assert too positively that there may not have been some typographical error or some error in misunderstanding your question, but that is certainly the fact of the case and what I supposed I was testifying. I wish you would produce my testimony if you have any about it.

3143 Q. Oh, no; you have the testimony. I will ask you to examine it and see if my question does not convey to you precisely what you stated?

A. I haven't any copy, except Mr. Burr has a copy which has been loaned to the stenographer.

Q. I ask you to review your testimony and be prepared to state at the next hearing whether you did not testify so before the State Gas Commission.

A. The New York State Gas Commission?

Q. Yes.

A. All right.

Q. And whether the contract which was shown to you when you testified before the Boston Gas Commission on the last occasion theretofore was not the current contract?

A. Well, that may be.

Q. Well, that is what I say; the current contract was shown to you at the time that you testified before the Boston Gas Commission and it showed that the Boston Gas Company under that current contract was paying a little over 4.49 cents per gallon for oil, didn't it?

A. No, it did not.

Q. You are sure about that?

A. 4.49 or something like that was what the company had been paying but the contract which they showed me was not a contract by which I could testify because I had agreed not to.

Q. No, in the Boston Gas Examination you did not put any figure on the record as to what the company was then paying for oil, and wasn't this contract shown to you in order to satisfy you that they were not paying too much and didn't you say after seeing the contract that you were satisfied that it was all right as to oil?

A. I saw two contracts. The contract covering the period of their report to the Commission and the contract for the next year which was lower, but I was not allowed to state what either contract was because I agreed not to by agreement between the attorneys.

Q. What was the contract the year before?

3144 A. I don't remember now. I have the notes at the hotel of both contracts.

Q. What year was covered by the 4.49 cents?

A. There is no use guessing. I will look up the testimony if you wish.

Q. Well, I want you to look up the memorandum so you can tell us?

A. I know that was generally made during the Boston hearing and when that occurred was in the early part of the year 1905 and

was a contract just made, if I remember right. I don't know whether it had gone into effect or not, but it was a contract for the next twelve or fifteen more months or two years, I don't remember just how long and I think I was shown the contracts under which they had been operating.

Q. You did testify before the Gas Commission here, did you not, that it was of the highest importance that the Company should be assured at all times of the delivery of oil to them, without failure of delivery on account of strikes or otherwise?

A. Yes.

Q. And that they should procure it from such sources as they would be assured of a supply and run in no danger of running short, or that in substance?

A. I don't know whether I so testified but I believe it so. That equally applies to Boston, Philadelphia, Baltimore and all the cities.

Q. And is it not the fact that a Company like the Consolidated Gas Company of New York, which uses a vast amount of oil and which can obtain that oil from, we will assume, but a single producer, is at a disadvantage as compared with a small company whose requirements are so small that it can get the oil from various producers, and can store an amount with reasonable expense, bearing a larger proportion to their annual requirements than the Consolidated could?

3145 A. I cannot say. It depends on the character of the Standard Oil Company and the directors.

Q. Just leave out the Standard Oil Company and the directors for a moment. Assuming there is but one producer which produces oil enough of the grade required for the Consolidated Gas Company, isn't the Consolidated Gas Company of New York on that account, other things being equal, at a great disadvantage as compared with a small company which might deal with half a dozen different producers, any one of whom could furnish it the amount required?

A. No, because it can divide its contracts; it can do as Philadelphia does, have one station supplied by one company and another by another.

Q. You think that would be feasible, do you, in running a gas business in the City of New York?

A. Yes, just as coal comes from different companies to the Consolidated—eight or ten different companies supply coal.

Q. There is quite a difference, isn't there, in that connection when you are dealing with oil and coal?

A. One is no more important than the other.

Q. How about storage? Is it easier to store coal than it is to store oil?

A. I cannot say. Coal is more bulky. I don't know.

Q. It is safer, isn't it?

A. It is safer. That is, oil is not considered as safe to store, but coal will catch fire from spontaneous combustion, so it is rather difficult to store coal in large quantities. I do not recall at the moment an instance of oil stored at gas works anywhere having exploded or burned up.

Q. You do not recall the case of any gas company storing oil for the greater part of its annual requirements, do you?

A. No, and I have not assumed it would be necessary if it got it from several companies.

3146 Q. Don't you know as a matter of fact the Company has to get its oil from time to time and keep on hand a very short supply?

A. I don't know its amount of storage tanks or what it might construct of additional storage tanks.

Q. It would be a pretty expensive proposition, wouldn't it, to construct tanks of sufficient size on the Island of Manhattan?

A. I have not testified that obtaining oil from different companies would necessarily involve that any more than in the case of coal.

Q. Have you been a purchaser of oil for gas manufacture?

A. No. And the oil at Lynn, you will notice, was only three cents.

Q. Yes, I understand that is your statement?

A. That is the lowest test, 28 degrees; one was 28.

Q. 3.29 cents for 28?

A. Lynn, 28 degrees gravity, for 3 cents; Lowell—I thought I introduced Lowell—yes, on the previous page, 2991, 29 degrees test, 3.13 cents.

Q. Where do you get your information as to those grades?

A. I get one of those from an official of the company and another through a friend from an official.

Q. You say that all the oil used in Boston is 34 gravity oil. You heard the testimony that the Consolidated used half 28 gravity oil, did you not?

A. Ninety-one per cent. is 28 gravity in the year ending October 31, 1905.

Q. Yet you think that Boston used 34 gravity oil entirely, practically?

A. Well, that is the statement I get from the president of the company.

Q. That would indicate, would it not, that the Consolidated Gas Company was operating very skilfully if it used 28 gravity oil to the extent of 91 per cent., a cheaper oil, whereas Boston was using all 34 gravity?

3147 A. It would indicate a good management after the oil reached the plant, certainly.

Q. Is it your statement of belief that the company will come back with 50 per cent. of 34 grade oil for the future? Did I understand you to state that?

A. This company only has expected that according to this contract as made in October, 1905, and the testimony indicates that it was not expected to use even as much as 50 per cent. the year around, but only in the winter months. I should say then, yes, to your question. In fact, the New Amsterdam and Standard go along even and produce a higher candle-power with the 91 per cent. of this low grade oil.

Q. Let me call your attention to your Boston testimony, page 492 of the record:

"By Mr. AUERBACH:

"Q. After having examined the contract for the purchase of oil by the Boston and Bay State Companies of the company that sells to them, do you find any explanation in the price of oil which you need to give, which accounts for the higher manufacturing cost of the gas sold by these companies? A. Do I find any explanation?

"Q. That they cannot make gas at the same price as other companies because they pay too much for oil, which price you need not give? A. I have not found an explanation for the higher cost of Boston except one in the line of manufacturing cost and one in the line of distributing costs."

Now, you were dealing at that time with the price at which the companies could produce gas as a basis for an argument that the selling price ought to be reduced because companies then could produce gas for a certain price, weren't you?

A. Certainly.

3148 Q. Well, do you mean to say then that the contract you were talking about when you were testifying on that subject was a contract which was not then in existence but a contract which had been in existence some years before?

A. No. What I mean to say is that the company had entered into a contract at a reduced price for oil but which was to cover a year which had not then been completed. We were in the midst of a fiscal year during the testimony and at a later time I expected to be called in rebuttal where more would have been said upon it, but as I was not, Mr. Babson in his argument for the City stated, as I recall it—and I was present at the time and handed him the slip which he used—that the cost to the company would be less for the current fiscal year owing to the lower price of oil, the exact reduction being something I was not permitted to state.

Q. And you didn't know when I asked you as to what they were paying in Boston for oil and you said it was 4.49 and a little over that I was referring to the latest contract which was shown you; is that right?

A. I don't recall what I had in mind at the time, but I know this much that at that time I did not have the knowledge which I now possess of what they did pay during the year ending June 30th, 1906. They may have made another contract since the one they showed me. In fact the contract they showed me, as I recall it, was for two different grades of oil, different prices for each grade, and according to the proportion of each which they used would be the total average cost of oil per gallon, and at the time you asked me the question I did not know what proportion of each they were using, neither did I know whether they had made any new contracts, and

3149 & 3150 I am now giving the late information, only recently obtained, regarding the entire year ending June 30th, 1906.

Mr. MATHEWSON: I intend to take up another subject, but as it is about 1 o'clock perhaps I might as well suspend here.

The MASTER: Yes, if you have come to a good place. Now, as we

are not to sit this afternoon, can we not start to-morrow morning at half past ten?

Mr. BURR: Yes.

Mr. MATHEWSON: Yes.

At 1 P. M. adjourned to October 19th, 1906, at 10:30 A. M.

Last Exhibits:

Complainant's, 256.
State's, W.
City's, 59.

3151 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *Oct.* 19, 1903.

Present: The Master, Mr. Mathewson, Mr. Kirby.

Mr. Burr sends word by a representative that he is ill and unable to proceed this morning and asks for an adjournment. There
3152 being no objection, the application is granted.

Adjourned until Monday, October 22nd, 1906, at 1 p. m.

Last Exhibits:

Complainant's 256.
State's W.
City's 59.

NEW YORK, MONDAY, *October* 22, 1906—1 p. m.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Kirby.

EDWARD W. BEMIS resumes the stand.

Mr. BURR: In last Thursday's testimony you made some corrections in the printed copy of the testimony and stated there might be other changes when you had time to read over your testimony? Do you desire to make such corrections now, and, if so, what are they?

A. I will only make now those which seem the more important, leaving for private conference with the stenographer the minor changes.

Page 2960, near the bottom, occurs the line, "cost up to the time that the gas reaches the holder." It should be "cost up to the time that the gas leaves the holder."

3153 Page 2969, middle of page, occurs this statement of mine: "in exhibit 23A, page 1745, of the typewritten testimony;" it should be "page 174;" the "5," in other words, does not belong there.

Page 2972, the last line of the table, is subsequently referred to in my testimony, page 2977, as *as* "totals inserted by the witness," as in parentheses, to the effect that the totals appearing at the bottom of table were then inserted by the witness. That is correct, only the totals are not inserted; the totals there in page 2972 are not the totals I inserted, but the totals in the original exhibit, for that exhibit took into account sales under the Agency Agreement, and I excluded those, so I want to put in now the figures for the last line of table, page 2972, in place of those that are there.

By Mr. BURR:

Q. The last line of 2972? You mean the last totals?

A. Yes, the last totals. Instead of the figure "$645,616.55," it should be "$778,464.23;" and instead of ".3026," it should be ".3022.

Page 2984, in Table 8, 5th line, under 42d Street, the figure 11.54 should be 11.64. Then the last line of the long table on the same page, under 42d Street, where it is now 34.74 it should be 34.77.

By Mr. MATHEWSON:

Q. It is so in your tables. Is it merely an error in the copying of them?

A. Yes, but I thought you should have it. And, again, under 14th Street, where it is 37.77 it should be 37.73.

Q. That is wrong in the table, then?

A. Yes, some of these are my mistakes and some are the printer's. Now the very last line of the same page, where it is 25.59 under 42d Street it should be 25.29, and instead of 24.98 it should be 24.94.

3154 Q. Those were both errors in the table, weren't they, Professor?

A. I don't remember now. I have not stopped to see.

Q. Well, it so appears on mine.

A. There were two or three different copies made at different times and I had it corrected on one sheet and didn't have it corrected on some other sheets.

On page 2985, as a result of these other changes near the bottom where the figure occurs, 25.26 cents, it should be 25.09.

Q. Shouldn't it be above that? It should be 25.29 in your testimony, on page 2985?

A. I am figuring it out now. I think it should be 25.09; and the 11.77 should be 11.60. These changes are not large, but I thought I ought to tell you of them, as I believe they are slight errors.

By Mr. BURR:

Q. Is that 25 and——
A. I have got it 25.09.

By Mr. MATHEWSON:

Q. In the second place, also, on page 2985?

A. Oh, there are two places on the page. It should be 25.29 where it occurs first on the page, because that is a repetition of the table on the previous page. When I started to correct those now I said I was correcting the last part of the page. I did not notice I had made in my own page corrections in the middle of the page also; so, to make it clear, in the middle of the page 2985 the figure 25.59 should be 25.29, and in the next line the figure 24.98 should be 24.94. Then further down the same page, only about eight or nine lines from the bottom, where the figures 25.26 cents occur it should be 25.09 cents, and where it is 11.77 cents, on the same line, it should be 11.60.

Then on page 2989, about ten lines from the bottom, where
3155 the figure 11.77 is repeated, it should be 11.60. That makes a slight change in the dollars—only a little over $4,000, but I mention it. $330,687.27 becomes $325,911.98.

Q. How about the 11.77 cents four or five lines above?

A. Well, where it occurs it should be the other figure. Then on page 2996, in harmony with these other changes, about ten lines from the bottom, where it is 7.87 it should be 7.85; and then, instead of its being $838,140.26 in the next line it becomes $833,364.96; and the next line instead of $13,969,000 becomes $13,873,020.

Q. Are these clerical errors made by the stenographer or are they errors in your testimony?

A. The latter errors were mine, following my taking a wrong start, but they don't make changes that amount to anything really; still I thought I would correct them. I think they were mostly mine.

Now, page 3000, near the bottom, after the figure in the line beginning "which would reduce the cost from 33.52 to 26.68," the "which" should be "and;" and after 26.68 cents it should read "per thousand feet of gas sold;" or after either, for that matter.

On the next page, 3001, 5th line, instead of the words "solely for that in" should read the "last two and one-half months of."

Page 3007, the table, second statement in the table, occurs the words "taxes and dividends in excess of 4 per cent. on $38,643,590.14 stock invested in"; after the word "in" it should read "other companies."

Page 3052, the next day's testimony, the last line, the last figure, 73.63 should be 78.93.

Page 3066, last line, before the last line should be the word "exceeds," so it should read, "the total increase in value exceeds the entire amount spent for repairs and renewals by $4,676,497.58."

At the bottom of page 3074, next to the last line, the fig-
3156 ures "in 1883" should be omitted, so as to read, "Now the consumption actually fell off a little from 1893 to 1895? A. Yes."

Page 3085, a mistake I made in computation on the spur of the moment here at the table. I looked at the wrong figure here in a column and it changes it as follows:

In the sentence beginning in the tenth line it should read, "Now during that period the per capita sales increased from 3,288 feet to 4,550 feet, a period of ten years, and there was an increase per capita of 1,253 feet, or 125.3 feet per year."

By Mr. BURR:

Q. What becomes of the balance of the sentence?

A. All the other sentences I leave. Page 3094, sixth line from bottom, the words "in the" should be "no," so as to read, "and no increase per meter."

Page 3096, the fourth line, after the word "deduct" should read "from the amount." And in the next line, after the word "have" before the word "reached" should be "not," so as to read, "have not reached."

On page 3123, on the next day's testimony, the word- in the seventh line from the bottom, "per cent." should be changed to "cents;" 1.27 per cent. should be 1.27 cents.

The last change I have noticed, save very minor ones, is on page 3140, third line; instead of 27.28 degree, it should be 27.28 degrees.

The WITNESS: Now, before the cross-examination continues, I would like to call attention to a letter I have just received from President Richards of the Boston Gas Company, as a continuation of his previous letter to me, evidently. Shall I have the privilege of referring to it? It is intended to be sort of a correction to his
3157 previous letter. He says "In your letter to me from Cleveland, dated October 1st, you asked if the oil used by us during the year ending June 30th, 1906, was 34 degrees gravity, and I replied to you on the 4th of October that it was 'practically 34 degrees.' I find on a further and more thorough investigation that we used a considerable amount of oil averaging 29 degrees gravity during the period referred to, but finding that in cold weather we could not get the desired candle-power with the low gravity oil, we obtained during the cooler weather oil of about 34 degrees gravity, thus bringing the average gravity of the oil used by us during the year ending June 30th, 1906, substantially below 34 degrees. I write the above to correct any wrong impression you may have obtained from my former communication on the subject."

Now, I have assumed that from the two letters, one saying practically 34 degrees and the other saying there was substantially less than 34 degrees on account of the reasons he gave, not having any better guide, I have assumed one-fifth was 29 degrees and the other four-fifths 34 degrees.

Mr. MATHEWSON: Do you think it is worth while to assume these things? Can we not assume the same things, Mr. Master, if we want to?

The MASTER: I think so, probably.

The WITNESS: The 3.13 cents for 29 degree oil paid in Lowell, remains undisputed.

The MASTER: You may proceed.

By Mr. MATHEWSON:

Q. I have not seen any evidence except as to hearsay——

A. I will produce it now if you like.

3158 Q. I don't think you have any evidence, if you don't know yourself.

A. I have a letter here.

Q. I don't think that is evidence. It is a subject for cross-examination, however——

Mr. BURR: You can bring it out on cross-examination.

Q. You observe that President Richards says he found it impossible to maintain the candle-power in Boston which you say was about 19, without the use of 34 gravity oil?

A. 19.37 for all after it was mixed——

Q. Yes, whatever it is——

A. He had a much larger proportion of coal gas to mix than they had here.

Q. You observe he says he was unable to maintain even the 19 candle-power which you say was delivered in Boston without the 34 degree oil?

A. It is much colder there.

Q. And that the candle-power is much lower, isn't it?

A. Yes, sir.

Q. Do you know the proportions of coal and water gas in Boston?

A. I think I can tell you in a minute. The water gas made during the year ending June 30th, 1906, was 1,421,194,000 feet and the coal gas made was 304,340,000 cubic feet, and the coal gas bought was 2,262,654,700 feet, so that out of about four billion feet that was either bought or made, 1,421,000,000 or about 35½ per cent. was water gas.

Q. How do you know that the coal gas came into Boston at all and did not go to some of these subsidiary companies, roundabout?

A. Which gas?

Q. Not in the Consolidated Company, the coal gas?

A. That was bought from Everett. The sales to private consumers and the city by the Consolidated Company was 3,479,998,565

3159 feet, and since the gas, both coal and water gas, that was made was only 1,725,534,000 feet, the other half of the gas sold in Boston must have come from Everett.

By Mr. BURR:

Q. What do you mean by Everett?

A. Well, the coke oven plant at Everett which makes coal gas, sells gas to Boston and Boston therefore gets gas from three sources; it gets it from the coke oven plant at Everett and then gets some from its coal gas station and some from its own water gas station.

By Mr. MATHEWSON:

Q. You don't know whether it is sent to Roxborough, Brookline, Dorchester or Jamaica Plains, or what proportion went into the pipes of these companies?

A. No. It is all treated as one company now.

Q. Yes, but they are different pipes and different systems.

A. I think they are laced up together at present.

Q. Before we leave this question of oil in Boston, I want to call your attention to the fact that you testified the other day that when you testified in Boston in the fall of 1905—it was the fall of 1905, wasn't it?

A. I testified—I have written out that whole statement here——

Q. No, no, what was the date?

A. Well, the testimony is page 234 of the printed statement, which was reprinted for this case.

Q. Leaving that out, when did you testify in Boston last?

A. It was in the neighborhood of January, 1905.

Q. But you said you were testifying for the year ending June 30th, 1904, in dealing with the cost of gas in Boston, is that right?

A. Yes.

3160 Q. And that a contract was then shown you which did not deal with the year ending June 30, 1904, or did the contract then shown you deal with that year?

A. In my testimony at that time I did not refer to a contract. The contract was shown to me later.

Q. Well. the contract which was shown you later in that hearing and which you referred to in your testimony here?

A. Yes.

Q. What period did that contract cover?

A. Just a minute. I have it all here. It covered the year—it was dated May 9th, 1904, and was to begin to run from July 1st, 1904.

Q. Did the contract so provide that you saw?

A. Yes.

Q. And what were the rates in that contract?

A. That I have never testified to because it was agreed that I should not state what they were.

Q. Did you not say that that was at a lower price than the four and one-half cents average which you testified in the Gas Commission hearings the Boston Company was paying?

A. I was asked, "Wasn't it as high as 4.49 cents?" And my answer was, "Yes."

Q. Well, to what contract were you referring when you said it was as high as 4.49 cents?

A. This contract that I was shown in Boston that was to begin to run from July 1st, 1904.

Q. But you said that there was a contract which you were shown at that time which ran at a lower rate than an average of four and one-half cents?

A. Well, I find I was mistaken in that. I will say this——

Q. Will you look at this paper I show you (handing paper) and say whether that is a copy of the contract of May 9, 1904, to which you refer?

A. Yes, it is similar to the notes I have here of it.

Q. Will you point out where in that contract there is any pro-

vision that it shall begin to run on July 1st, 1904, instead of
3161 at its date?

A. No, I do not find anything here, but I have a note to that effect taken at the time. Perhaps it came in the course of conversation.

Q. It evidently is not in the contract?

A. I do not see it there. I had made the note at the time and Mr. Richards was present while these contracts were produced by him, and I must have got it from some remark made at the time.

By Mr. BURR:

Q. Do you know that the paper produced by Mr. Mathewson is a copy of the contract shown you in Boston? If you don't, say so, and if you know, say so, also.

A. It appears to be quite in harmony with my notes in every respect, so far as I can determine it.

By Mr. MATHEWSON:

Q. I state that that is a copy which I have procured, or purports to be a copy. You have no doubt that it is?

A. I have no doubt that it is.

Q. This contract of May 9th, 1904, which you say was to begin to run July 1st, 1904, for the next year, calls for a large quantity of oil at 4½ cents per gallon, an average of 4½ cents per gallon, to consist of one-half of the Texas product at 4 cents and one-half of the northern gas oil at 5 cents, does it not?

A. Yes.

Q. So that this letter covers the period during which you were testifying in Boston, and the year beginning July 1st, 1904, and ending June 30th, 1905, as you understood it?

A. Yes. It did not cover the year for which I have given figures in this testimony.

Q. That is, it did not cover the year ending June 30th,
3162 1904?

A. No, June 30th, 1906, I just meant to say.

Q. It does not cover either the year ending June 30th, 1904, does it?

A. I understood that it was to take effect July 1st. If it did take effect a month earlier or a month and a half earlier of course I was mistaken to that extent.

Q. Do you know what the Boston Gas Company——

By Mr. BURR:

Q. What does the fact appear to be from this copy you have been handed by Mr. Mathewson as to the time that that contract to which you have alluded is to begin to run?

A. It does not state. There is only a difference, to my mind very immaterial, between May 9th and July 1st, of 1904.

Q. But please be accurate as to the times that these contracts are to commence to run. If you are sure of it, that is one thing——

A. There is nothing in this contract that shows when it is to begin to run.

Q. There is nothing in this paper which you have been handed to show when the contract, if that is a contract, is to begin to run?

A. That is right, and I had the note that I suppose that I got at the time from a conversation with Mr. Richards that it was to begin to run July 1st. If Mr. Mathewson asserts that it began to run May 9th, I have only to say that I have this note and it may be wrong.

By Mr. MATHEWSON:

Q. Were you not referring to this contract of May 9th, 1904, a copy of which I have shown you when you said that the price of oil in Boston at the time you were testifying in the gas case be-
3163 fore the Gas Commission in New York was as high as 4.49 cents?

A. I was referring to that contract.

Q. Now as a matter of fact, do you know what the Boston Gas Company paid for its oil on the average for the year, ending June 30th, 1904?

A. I do, I think.

Q. What was it?

A. In that year they paid—the Bay State Company paid 5 4-5 cents, and the Boston Gas Company 5.7 cents.

Q. Per gallon?

A. Yes. Then they made this contract——

Q. Of what grade?

A. Then they made this contract which was lower, and they may have it down still lower since.

Q. That you have already testified to, and it is not necessary to repeat it, as it takes time. What grade was this oil which averaged 4.49 cents for the year ending June 30, 1904, to the Boston Company?

A. I am not positive that I have information on the subject, but I believe I have information that it was to some extent a higher grade of oil than they are now using and I don't think they were using any 28 degree or 29 degree oil.

Q. You wish to correct your testimony of the other day when you said that that contract was not the one which was shown you?

Mr. BURR: Well, which contract—what contract do you mean?

Mr. MATHEWSON: May 9, 1904.

The WITNESS: I don't know what you refer to. Will you point to the page?

Mr. BURR: Are you referring to a paper which you have just held up to him?

Mr. MATHEWSON: This copy of the contract of May 9, 1904.

3164 The MASTER: Why not mark it for identification or read it, because it makes the record a little blind in looking it over afterwards.

Mr. MATHEWSON: I hardly think it is necessary. He has referred to it and he stated the figures which it provides.

The WITNESS: I have my testimony and I do not see any conflict between my testimony and what I say now.

Q. Didn't you say at the time that the contract which was shown

to you in Boston was a contract which provided for a lower rate than four and a half cents?

A. I will read:

"Q. And whether the contract which was shown to you when you testified before the Boston Gas Commission on the last occasion theretofore, was not the current contract? A. Well, that may be.

"Q. Well, that is what I say, the current contract was shown to you at the time that you testified before the Boston Gas Commission and it showed that the Boston Gas Company under that current contract was paying a little over 4.49 cents per gallon for oil, didn't it? A. No, it did not.

"Q. You are sure about that? A. 4.49 or something like that was what the company had been paying, but the contract which they showed me was not a contract of which I could testify because I had agreed not to."

Q. I referred to the current contract at page 3143, and asked you if it showed that the Boston Gas Company under that current contract was paying a little over 4.49 cents per gallon for oil, and you answered, "No, it did not." Now don't you wish to change that?

3165 A. I think I do. That contract I thought was lower because the price became so much lower in the next year. Now I have never seen that lower contract, and not having it in my hands and not having seen for months the contract which I did see in Boston——

Q. I simply asked you the question as to the current contract and you answer that you do wish to correct your testimony, and it was a little higher than 4.49?

A. Yes. That is, it might be higher. It depends altogether on whether they used the proportion they had the right to use.

Q. Does not the contract of May 9, 1904, state that it shall average 4½ cents?

A. Yes.

Q. Now on page 1304 of the Gas Commission testimony, where you testified in respect to the price of oil, appears the following?

"Q. So that oil is no higher here apparently and not quite so high as it was in Boston, is it? A. That is true.

"Q. And if it was four cents in Cleveland and higher in the east, it could not have been a great shock to find it was 4.49 in New York? A. The figure given me in Cleveland was an offhand statement from one of the officers who said he was not sure."

Q. Now I understand that you have testified here since that you find you were mistaken about the cost of oil at Cleveland?

A. Yes, the cost of oil in Cleveland is 2¾ cents last year.

Q. Let me call your attention to the statement presented to the Commission of Gas, Oil & Electric Light in Chicago, as it appears in the pamphlet which your counsel, Mr. Burr, has quoted from occasionally, and see if I quote you correctly: "The City of Cleveland is one of the largest——

Mr. BURR: Referring to what page?

3166 Mr. MATHEWSON: 20.

Mr. BURR: And the date when this was given?

Mr. MATHEWSON: December 27th, 1905, it appears on page 4 as the date of Professor Bemis' appearance, and this statement appears from its heading on page 16 to have been given on December 29th, 1905.

Q. (Continuing:) "The City of Cleveland is one of the large cities that charges 75 cents for its gas. In Cleveland they get their coal and oil cheaper than they do here, and there they have to compete with natural gas, and in addition to the ordinary taxes they have to pay a franchise tax amounting to 5 cents per thousand feet of gas. Oil and coal are cheaper there; I don't know the exact figures, but the treasurer and vice-president of the company told me they were paying 4 cents for gas oil there. Labor also is cheaper in Cleveland than here." Now is it true that the treasurer and vice-president of the company told you that the charge was 4 cents?

A. Yes, in a street car one day, and he told me at the time he was not sure.

Q. Is that what you refer to in this testimony, when you state before the Gas Commission "The figure given to me was an offhand statement from one of the officers who said he was not sure?

A. Yes.

Q. You did not state in this statement to the City of Chicago that you were not sure anywhere, did you?

A. I don't know.

Q. Well, if you did I would like to have you show it to me?

A. That is only a condensation. I don't remember that I did, but I have since seen the contract, and it is 2¾ cents.

Q. Cheaper even than it is in Chicago?

A. I don't know the price in Chicago.

3167 Q. Didn't you testify before the Gas Commission that your information was that it was about 3 cents in Chicago.

A. I never had definite information. One engineer who went around with me refused to tell me, but from some remarks he made I thought it might be in that neighborhood; but afterwards I felt it was not sure. I had seen no contracts or definite statements.

Q. Didn't you testify before the Gas Commission that your best information was that it was about 3 cents?

A. Yes, I think I did, but don't remember precisely and I did not feel positive about it.

Q. Referring to tables 8 and 9, the first is at page 2984 of the record, comparing operating cost at the Central Union Coal Gas Station and at the 14th and 42d Street coal gas stations of the Consolidated Gas Company. You stated at page 2987 of this record that if the Consolidated Gas Company received for its coke the same amount which you computed as received by the Central Union "This only means a difference of 1.01 cents per thousand feet distributed over the 2,809,586,000 feet made by the 14th and 42d Street stations. Will you show how you procure that result?

A. By turning back to the previous page I gave a table——

Q. Table 9?

A. Yes, and that tons of coke sold, the dollar mark does not belong there, 57,844.06, multiplied into the 15 cents, gave the $8,676.61

and the 56,932.93 tons at 42d Street multiplied into 33 cents, the difference there per ton, gave me $18,787.87, and then I added the two, making the $27,464.48, which is a little more than a cent if distributed over the 2,809,586,000 feet.

Q. You say it is a little more than a cent. It is 1.01 cents?

A. Yes.

Q. Did you not divide the amount in dollars into the amount of feet which would give 1.01 instead of dividing the other way?

A. That is possible.

3168 Q. In other words, you reversed the process completely?

—. But it is——

Q. It happened to come to perhaps not over two or three tenths of a cent difference?

A. It does not come out that much?

Q. But you should have divided the amount in dollars by the number of feet, should you not, instead of the other way?

A. Yes, that is what I thought I had done, but when I came to look it over, I found it was about the same.

Q. You divided the other way and then displaced your decimal point and that brought it somewhere near right?

A. There is not a difference of over a tenth of a cent?

Q. But there would have been if you had pointed off your decimal properly, when you divided originally, you would have got about $9,000 or $99,000 instead of about one cent.

A. I don't know how it was done but I did this in giving it. I glanced through and saw that one cent would mean about that amount and did not stop to go through the full computation again. It is .98 of a cent instead of 1.01, a difference of .03 of a cent.

Q. Yes, you have this time divided the amount of dollars by the number of cubic feet, haven't you?

A. Certainly.

Q. Now, you have reached that result, as I understand it, assuming that the arbitrary figure at which coke is transferred back and forth between coal and water gas plants, is really that figure at which the coke of the company is sold or could be sold in the market. Now, let us see if we cannot find out a little more accurately what the difference per thousand feet due to coke would amount to. Will you take from table 8 the 13.49 cents which I understand includes your computation for coal gas at the Central Union station, after deduction for oil and repairs——

A. Yes, that was the figure.

3169 Q. —and now take the 14th street station, which is 24.94 cents according to your corrected figure this morning after a like deduction.

A. Yes.

Q. Now, you deducted the oil in reaching these two figures because the gases might at the time you compared them have been enriched to different degrees?

A. Yes.

Q. So you thought that was fair. But, as a matter of fact, the Central Union Station, as you have said, has more machinery, and

therefore the repairs would therefore naturally be larger than they would at the station which had less machinery?

A. The repairs are larger on coal gas than water gas, but these are repairs on the coal gas separate.

Q. I understand, but as between two coal gas stations, the coal gas station which has the most machinery and the least hand labor would have higher repairs, as you said the other day, than the one with less machinery and more hand labor, because you don't have to repair you- man.

A. Yes.

Q. Therefore, in order to be fair in this comparison, we must leave the repairs in because that is a part of the efficiency of the Central Union plant.

A. You cannot determine that very carefully and accurately—you could over a period of three or four years, because——

Q. But the Central Union appears to be 4.48 cents and the 14th street 3.79 cents?

A. Yes.

Q. And the repairs at the Central Union station should be somewhat greater on the average, having more machinery. Now, will you add those repairs to the 13.49 cents for the Central Union and the 24.94 cents for 14th street, and see what we have, eliminating only oil?

A. In other words, add 4.88 to the Central Union and that makes 18.37 cents; now add 3.79 cents to the 14th street would make 28.73 cents.

3170 Q. Now, have you a copy of the Central Union testimony here?

A. No, I did have the other day.

Q. You understand in the Central Union and all these other cases the exhibit was made up, showing in considerable detail what was received for different products, at your request, upon the order of the Commission?

A. Yes.

Q. Well, now, I will show you that exhibit and ask you to look at page 212 and see how much coke was used in the generators at the Central Union.

A. It is an exhibit I have never seen.

Q. It is on file with the Gas Commission and also on file with the printed case on appeal, where Mr. Mayer, one of the defendants here, represented the State.

A. I have never seen it though. Page 212?

Q. Yes. Give me the amount of coke used in the generators.

Mr. BURR: Let us get this straight, if you please. This purports to be Exhibit 22 before the Gas Commission, appearing upon the printed record, being the papers on appeal in the matter of The Commission of Gas & Electricity in the matter of the complaint of H. Brown and others against the Central Union Gas Company, page 212.

Q. If you will give me the amount of coke used in generators?

A. Water gas; amount and value of coke used in water gas generators?

Q. Yes, that is the coke transferred from the coal to water gas plants. Just the amount in dollars, I do not care for the amounts, but just the dollars?

A. $34,177.41.

Q. And the amount used under the boilers?

A. $3,204.15.

Q. That seems to be the coke used in water gas which came from the coal gas station?

A. Yes.

3171 Q. Page 214, coal gas, coke used, $2,626.05?

A. $2,626.05.

Q. And the amount sold, page 215, that is the amount sold in the market and not merely transferred between stations?

A. What page do you say it is?

Q. Page 215.

A. Amount and value of coke sold or available for sale out of the year's product $114,810.02.

Q. Yes. Well, that represents all the coke of the Central Union Company which was transferred from the coal gas plant to the water gas plant and used in generators and that transferred to the water gas plant used under boilers and all the coke produced which was used at the coal gas plant and all the coke which was sold; in other words, all the coke of the company?

A. Yes.

Q. Now will you give me the total amount upon those figures for the coke of the Central Union Company, which will be simply the addition of those four items.

A. $154,817.63 appears to be the amount and value of coke produced, whether used or sold, as given at the bottom of page 214.

Q. Now will you divide that by the total coal gas made by the Central Union Company which appears at page 132 of that record.

A. 670,518,000 feet; that divided into $154,817.63——

Q. I make it 23.09 cents.

A. That is what I make it.

Q. The result is 23.09 cents per thousand feet of coal gas manufactured, is it not?

A. Yes.

Q. Now will you look at page 2142 of the printed record before the Gas Commission in the Consolidated case and tell me the amount realized for the coke of the 14th Street station of the Consolidated, all of this being for the nominal year ending October 31st, 1905, respecting which you have testified?

3172 Mr. BURR: As it appears on that page. Is that an exhibit?

The WITNESS: It is Exhibit 149.

Q. It is $178,527.11, isn't it?

A. Now you ask me to do what?

Q. If you will state the amount received for the coke produced at the 14th Street station for the nominal year October 31st, 1905?

A. Before or after deducting the cost of handling, labor and cartage?

Q. 178,527.11?

A. That is before the deduction.

Q. Yes, you have already dealt with the labor of cartage and handling in your table previously.

A. Was it on the same basis in the Central Union that I just figured?

Q. So far as I know.

A. The figure is $178,527.11.

Q. Now, divide that by the amount of coal gas made at 14th Street station, which appears on page 2145 of the same record to be 1,360,284,000 cubic feet, and see how many cents per thousand feet produced that would mean for coke.

A. It would be 13.1 cents plus.

Q. 13.12 cents, I make it, if that is right?

A. Well, I guess so.

Q. And if the Central Union receives 23.29 cents for coke from its coal gas and the 14th Street station receives 13.12 cents that would mean that the Central Union received how much per thousand feet of coal gas made beyond that received by the 14th Street station?

A. 9.97 cents.

Q. Now, if you will take your figures at the foot of table 8 and add 9.97 which is the difference received in coke to the 18.37 of the Central Union, it will make how much.

A. 28.34.

Q. As against 28.73 for 14th Street?

A. That is right.

Q. So that upon that showing the difference would seem to lie almost wholly in the amount received for the residual coke as between 14th Street and Central Union stations, with practically no difference in operating cost outside of that?

3173

A. Well, there is a difference in labor cost although——

Q. Yes, but those smaller items seem to adjust themselves back and forth so that there is practically no difference?

A. On that basis I shall have to look into the coke matter further before I see what other facts enter into it. Of course those computations work out that way.

Q. We have now been proceeding in the figures in the exhibits which include the figures at which coke is transferred back and forth from the coal gas to the water gas plants as well as upon the amount received for the coke which is sold by the two companies in the outside market. Will you look at page 414-A of Exhibit J.

A. In this case do you mean?

Q. Yes. And tell me the amount of coke aside from screenings coming from 14th Street plant and the amount received from it for the calendar year ending December 31st, 1905?

A. I don't know if I am looking at the particular figure you suggest from 14th Street station on account of coke transferred?

Q. No, coke sold I am referring to now, so as to get at the market price?

A. Coke sold by 14th Street you say?
Q. Yes.
The WITNESS (continuing): Sold to outside parties?
Q. Yes.
A. Yes. I thought at first this was perhaps an exhibit of several stations.
Q. No, I am now getting at the difference per thousand feet on account of coke sold by the Central Union and the 14th Street plant of the Consolidated on the basis of market prices; that is,
3174 what they can sell it for in the market or do sell it for?
A. Coke sold to outside parties 117,940.7 tons?
Q. No.
A. Loads.
Q. Oh, loads, yes.
A. Being 260,118.34.
Q. That is for both 14th and 42d Streets, the two coal gas plants, Professor, and of course we only produce coke at those two plants, you understand?
A. Yes, exactly.
Q. Then that means, according to my computation, 78,308.51 tons?
A. Counting a load as 1,500 pounds, I suppose?
Q. Yes. Will you take the screenings for 14th and 42d Streets and tell me the amount received for them?
A. Screenings 33,155.5 loads; $30,114.14.
Q. And that if I am correct means 27,847.88 tons?
A. Yes.
Q. About 2,000 pounds to the ton?
A. Excuse me. May I ask you how many pounds you give to a load?
Q. 1,500 for coke and 2,000 for screenings.
A. Then there would be the same number of tons and loads, wouldn't there?
Q. I am talking about long tons, 2,240 pounds to the ton. That would make how many tons all told, coke and screenings, and how much received for——
A. Well, taking your computations on what it amounts to in tons——
Q. If you have any doubt about it verify it if you wish to, Professor?
A. No, I haven't at present. It would be 106,156.39 tons. And did you ask the price?
Q. Yes, the total.
A. $290,232.48.
Q. At how much per ton on the average?
A. $2.73 plus.
Q. 2.733?
A. Yes.
Q. Now, will you take the amount of coke sold by the Central Union, which you stated to be from the exhibit, $114,810.02,
3175 and will you kindly reduce the pounds to tons and say how many tons that represents—the long tons, the same as the Consolidated?

A. I make it 26,787——

Q. 26,787.65?

A. Yes. It was not quite 26,788.

Q. You are willing to accept the decimal as I will give it—26,787.65?

A. Yes.

Q. And that would mean how much per ton for the coke for the Central Union?

A. Dividing that into $114,810.02 is what I must do. Well, it is nearly $4.29.

Q. I make it $4.285.

A. Yes, I think that is right.

Q. Then based on the sales by the Consolidated and by the Central Union to outside parties the Consolidated receives $2.733 per ton for its coke against $4.285 for the Central Union, or a difference of how much per ton?

A. I do not understand this exhibit yet to be able to state whether I assent or not to your statement that these are prices actually received. I am making these computations, but I do not want to assent to anything further on the basis of these computations. There is a difference between 4.285 and 2.733 cents——

Q. Well, they appear in the same volumes and appear to be *bona fide* exhibits, the same as those from which you have computed, do they not?

A. Well, how these figures are obtained I cannot say, because I am very clear in my mind that there was another exhibit I used giving the value of the coke used in making water gas which was very different.

Q. To what are you referring when you say you cannot say from what source these figures are derived the Central Union exhibit?

A. Yes, the Central Union exhibit gave very different figures from the value of the coke used in making water gas, so I must go over these exhibits very carefully to reconcile them. I do not understand them yet.

3176 Q. As far as the Consolidated exhibits go, those you have been over very carefully?

A. Yes, sir.

Q. And on the basis of this exhibit which is a part of the printed case on appeal in the Central Union case, the computations you have just made would seem to be correct, wouldn't they?

A. Why I think the figures are correct, but what they mean I cannot tell till I look them over further.

Q. Don't they appear by the exhibit to be exactly what I have stated?

A. They are in such conflict with that other exhibit of the Central Union before the Gas Commission that I am not prepared to say.

Q. This is the exhibit of the Central Union before the Gas Commission to which I have just called your attention?

A. But being one which I have never seen before I shall have to take a little time to look it over. I cannot do it in a minute.

Mr. BURR: The last exhibit is Exhibit 22, is it not, Mr. Mathew-

son? The one you refer to, appearing on page 210 of the printed case to which reference has been made previously.

Mr. MATHEWSON: Yes.

The WITNESS: I will call attention to the fact that I did not appear in the Central Union case as I did in the Consolidated a year ago. I prepared data for questions for Mr. Ford, but I never saw the answers. This is the first I have seen of this.

Q. And requested that information to be presented in this form for all the companies?

A. Yes.

Q. And assuming that this exhibit in the Central Union case to state the fact, the results would be sufficiently computed, wouldn't they?

A. Why, I think I have computed carefully, but what they imply I should not want to say until I took really a night's study.

Q. I do not think you have answered as to what the differ-
3177 ence would be between the $4.285 and the $2.733.

A. It is $1,552.

Q. Per ton?

A. Yes.

Q. Now, in your testimony before the Gas Commission you had before you Exhibit 93 in this case or its equivalent, showing the cost of gas for the nominal year ending October 1st, 1905, did you not?

A. I had part of it at least. I think it had all been handed in but I am not sure when I testified that I had examined more than the consolidation of it all in a single table. Whether I had before me a separate return for each company I am not sure.

Q. What do you mean by a separate return for each company, because this relates only to the Consolidated Company?

A. Oh. That was Exhibit 145. That is the one. I meant to say that I was not sure whether I had it fully in my possession but I did have what is in Exhibit 93.

Q. Didn't you also have Exhibit 145 before the Gas Commission which showed in details the items of this?

A. That was handed in at the time I testified but I don't think I had very fully examined it.

Q. Well, the cost of the gas made, not sold, at the station, appears in Exhibit 93 to be 32.84 cents, for the nominal year ending October 31st, 1905. Now in your computation of the proper charge of the cost of gas, as given before the Gas Commission did you make any deduction from the station cost at all?

A. No, I was not then aware—I had not had opportunity to analyze these other companies. In fact, the exhibits had not yet been made in the Central Union, or the Standard, or the New Amsterdam at the time when I testified.

Q. So that your present action in deducting something from the station cost which appears in Exhibit 94 for the calendar year 1905 to be 32.77 cents, or a little less than for the nominal year,
October 31st, 1905, is based on the exhibit showing the
3178 operation of the other companies in the City of New York, which subsequently came to your knowledge.

A. And on studies of oil.

Q. Well, you had before you before the Gas Commission all the testimony in respect to oil that appeared in the gas record, didn't you—in the record in that case?

A. I didn't have these later figures in Massachusetts at all.

Q. Do you then base your deduction at this time on the fact that you had the statements of these other companies and also on the further fact that the oil is obtained at a lower price in Boston?

A. Boston and Lowell and Lynn.

Q. Were not the data available in reference to those in the office of the Commission in Massachusetts in 1905 when you testified?

A. The data for the year ending June 30, 1906, had not been delivered to the Commission.

Q. But for all previous years it was there, wasn't it?

A. Yes. I did not get it though because I didn't have time.

Q. You know that the cost of oil for the nominal year ending October 31st, 1905, as shown in Exhibit 93, is only 4.04 cents per gallon?

A. Yes. 91 per cent. of it was oil that cost only three cents in Lynn.

Q. Because the greater part of that year—in fact all the cold part of that year came under the 20 candle-power rate, you remember?

A. Yes.

Q. Now, referring to candle-power, do you know what the penalties are in Boston for failure to maintain candle-power?

A. No.

Q. Do you — what they are in New York under the present law?

A. I have noticed some testimony about it in this case.

Q. Do you remember Mr. Cowdrey's testimony in Chicago, or his statement that you must make an allowance of two candles between the candle-power at the station and at the limits to which it is sent?

3179 A. I think he said something of that kind between at the station and at the limits. I think he may have. Others dispute that.

Q. Mr. Cowdrey is the manager of the Laclede Gas Works in St. Louis, isn't he?

A. Yes. I heard others say differently.

Q. He is a man of large experience?

A. Certainly.

Q. Assuming that the penalty is $1,000 for each offense in not maintaining candle-power, and that the tests take place daily, as they do under the present law, would it not be necessary in prudence to maintain a higher candle-power above the standard than what would be necessary if a penalty were affixed only for a failure to maintain the candle-power for three consecutive tests taken a week apart?

A. If what you state is true the law is more rigid.

Q. And there would be required a larger margin of average candle-power in order not to fall at any time below the maximum?

A. Yes.

Q. You have referred to the removal to Astoria, Professor, as probably resulting in certain economies. Do you remember the testimony of Mr. Bradley that the economies which he had in mind had been obtained so far as the water gas was concerned?

A. I remember that he testified about having affected some economies which he had previously had in mind.

Q. And that he had no idea that he could make coal gas at Astoria any cheaper than he is now making water gas in New York?

Mr. BURR: I don't think that is the testimony.

Mr. MATHEWSON: Yes, it is.

Mr. BURR: Then you had better refer to it specifically.

3180 Mr. Bradley started out by saying before the Gas Commission that he could economize up to five cents, and afterwards he said here whether he could economize was problematical. Now, that is my recollection of the testimony.

Mr. MATHEWSON: Mr. Bradley testified before the Gas Commission it would make a difference of five cents, and subsequently stated he referred to the coal gas and that that economy had been already made, and that he had reference as well to 20 candle-power and not the 22 candle-power which prevailed at that time. He also stated he could not produce coal gas cheaper at Astoria than water gas is now produced in New York.

Q. You understand that Astoria is wholly a coal gas plant?

A. Yes.

Q. And as to what the result will be at Astoria will depend considerably, will it not, upon what they are able to obtain from their coke as a residual?

A. Yes.

Q. Coke is a substance which is very easily damaged, is it not, by storing and by transfers?

A. It is affected by it. It is injured by it.

Q. The amount of screenings increased?

A. Yes, sir. I did not mean to say that the question of residuals would be the sole economy—the sole thing that would effect economies at Astoria.

Q. Well, but you have said that after the plant has an output of 700,000,000 feet or such a matter there is practically no further economy in connection with production?

A. But there would be a great economy over 14th and 42d Streets.

Q. But you have in mind that 14th and 42d Streets now produce about one-fifth of the gas of the Company, have you not?

3181 A. Yes, but as regards that coal gas, 2,800,000,000 feet per year, I think there would be great economies at Astoria.

Q. Assuming that at Astoria you were able to make a saving of five cents on that coal gas?

A. I think it ought to make ten cents.

Q. Well, some of us do not believe it, but assume that it made ten cents saving at Astoria, below the present cost, that would make a difference in the total output of the gas of only two cents, including water and coal gas, would it not?

A. About that.

Q. And if there was a reduction of five cents in the cost below 14th and 42d Street, that would mean a difference of only one cent in the total volume of gas?

A. I think they ought to do as well as the Central Union; that is my point.

Q. Before we get through perhaps it will appear we are doing as well now, aside from what we get from our residuals. Your figures this morning would seem to indicate it. And if we have a coal gas plant operating at Astoria of course we would not have to use this high priced oil to which you referred, but how about coal. We will have to use coal instead of oil, will we not, very largely?

A. Coal and coke. Oh, yes, coal for coal gas.

Q. And how are you going to enrich it to 22 candle-power? You cannot get that 22 candle-power gas out of coal, can you without any enrichment?

A. No, I testified there would be oil used but not as much used per thousand feet.

Q. Wouldn't there be just as much oil used in enriching coal gas at Astoria as there would be in enriching it on Manhattan Island?

A. Yes, that is true. I meant as much as in making water gas.

Q. But so far as coal gas which we are now producing is concerned and which would be produced ultimately at Astoria, it would take just as much oil to enrich it in one case as in another?

A. Yes.

Q. So that the economy to which you refer by the use of
3182 oil would only come up in connection with surplus gas produced beyond that?

A. Yes, instead of enlarging the water gas plants or in substitution for the water gas, to some extent.

Q. Well, let us see about that. You understand that the sales of the Consolidated Company for the past calendar year were 13,283,000,000 or thereabouts, and that it only produced something over 10,000,000,000 feet itself and obtained under the Agency Agreement 3,000,000,000 feet more.

A. Yes.

Q. And you observe that that gas that it obtained under Agency Agreement represented a station cost of 33.38 cents, by Exhibits 94, as against 32.68 cents for the gas manufactured by the Consolidated?

A. Yes.

Q. Both being very largely water gas?

A. Yes, that is true.

Q. And the first unit at Astoria with its capacity of 20,000,000 feet per day maximum capacity would mean, according to ordinary computation, an annual capacity of about 4,000,000,000?

A. Yes.

Q. So that the first unit, costing, as the testimony is, something like $10,000,000, exclusive of land and tunnel, would only take care of the amount of gas which the Company is now procuring from other sources, and make a very small margin over to take care of this expected increase?

A. I did not think it would be a substitute at all for the gas it gets from other sources.

Q. You did not think it would be?
A. No.
Q. Why not?
A. Because it is much cheaper to buy that gas at the price they are paying than to pay interest on a plant to make it. In other words, the ten per cent. as margin over and above operating cost is less than interest and depreciation on a plant, I think.

Q. Did you know that a suit was pending already against
3183 one of these companies from which the Consolidated receives gas because it delivers gas to the Consolidated for the figure that it does, the claim being that it is too small a figure to represent cost and return?
A. No, I am not acquainted with the lawsuit.

Mr. BURR: *The* which suit does counsel refer? To the suit now pending with this suit in the United States Court?
Mr. MATHEWSON: No. I merely asked the witness if he knew that the suit was pending. He says that he did not. That seems to end it.
Mr. BURR: Neither did I know, and it does not make any difference to the issues here or to the defendants.
The WITNESS: In my belief the Astoria plant will be used as a substitute for the coal gas plants and, to some extent, for the more expensive water gas wherever they choose, and in providing for increased consumption. As I understand it, there is a second unit under way at Astoria, so as I understand there are to be 40,000,000 feet capacity.

Q. What about the companies in New York which now have a surplus production, if there is any increase of output as you have computed by reason of any reduction in the price of gas? Won't the other companies here need the surplus here to take care of their own increased production?
A. The Mutual has 9,000,000 feet a day surplus capacity—I don't know that the others have very much. In fact, the Astoria plant, as I have just said a second ago, would be used in part in providing for increased demands for gas. I said that just now. That was one of the ways in which I thought it could be used.

3184 By Mr. BURR:

Q. In Manhattan or in Queens?
A. Anywhere where it can be most advantageously piped. Sold to Brooklyn perhaps.

By Mr. MATHEWSON:

Q. Now, you have figured a reduction in the cost at Astoria, 6.69 cents, if I get it correctly, upon the make of gas with the opening of the Astoria plant. Is it your idea that the coal gas plants here will be immediately abandoned as soon as that is opened?
A. The manufacturing portions of the plant, I think, will soon be discontinued. Not the holders or the land and some things about them.
Q. How soon?

A. I don't know. I believe comparatively soon.

Q. How do you make up this 6.69 cents? How much of that is oil and how much something else?

A. That, I think, appears in evidence.

Q. Isn't that made up, that 6.69 cents, that gain made up on the theory that there will be a saving in the production of all the gas that is made and not merely the coal gas which is made at 14th and 42d Street stations?

A. It assumes that the water gas will be made as cheap as the New Amsterdam and Standard make it, and it assumes that the coal gas would be made as cheap as the Central Union makes its coal gas, after making full allowance for the difference in oil and then it provided more oil on the Massachusetts prices.

Q. On what you say to be the Massachusetts prices?

A. Yes.

Q. Because the Standard and Central Union as a matter of fact do not now manufacture their gas at figures representing what you say is the Massachusetts cost of oil?

A. No. According to the exhibits they do not.

3185 Q. What do you mean when you say that the economies at Astoria will be sufficient in your judgment to be six per cent. on the entire investment? On what entire investment?

A. Well, I used the figure—well, I said it would be six per cent. on the $15,000,000, did I not?

Q. I am not quite clear what you did say or mean.

A. I was trying to find the place in the testimony where that was brought out.

Q. Don't you remember to what you did refer?

A. Yes, but I wanted to refer to the page. It was about $15,000,000. Six per cent. on about $15,000,000 was the saving and I used $15,000,000 in connection with the cost at Astoria.

Q. What becomes of the two coal gas plants which you say you would abandon? How about the valuation of those?

A. I think that has been taken up in the—that is, the part abandoned has been taken up in the repairs of the last twenty years in excess of the $9,000,000. In other words, I allow 10.89 cents for repairs, renewals, depreciations and contingencies, and so far as there is any strength in the complainant's testimony about the increase in value of the plant over and above nine and one-half million dollars since 1884, to that extent that figure is too high, and to that extent it will wipe out the 14th and 42d Streets investment.

Q. Then your argument that the 14th and 42d Street plants would be wiped out is based on that theory you have just stated?

A. I think it is cared for by that.

Q. Is it cared for by anything else, because if it is I should like to know what?

A. Why, I don't have in mind anything else now.

Q. Well, we will deal with that subject of 10.89 cents a little later, in order. You testified in Chicago about the time you were testifying before the Gas Commission, did you not, that all of the plants,

3186 or practically all of the plants of the Consolidated Company were to be removed to Astoria very promptly?

A. Whatever I stated I stated.

Q. Don't you remember whether you did or not?

A. I don't remember that I stated that all of them were.

Q. Practically all?

A. I don't remember just what I stated.

Q. Well, when you came before the Gas Commission, how many did you state were going to be removed?

A. Whatever the testimony says.

Q. Don't you remember?

A. No.

Q. Do you really mean that you don't remember, or that you don't want to state?

A. I should rather you read it. I don't remember it exactly. Whatever you read I will accept but I don't remember it exactly. Only I do remember this, that the company had been testifying as if a larger amount was to go to Astoria at that time than what the testimony since then has seemed to indicate, and I don't find now as much evidence of the intention of the company to vacate the property on the Island as I did when I read their returns to the State Gas Commission, when they proposed to "scrap" it off, or "scrap" over most of it.

Q. You say this in substance:

"In other words whatever the cost you have changed your mind "since you testified in Chicago on that subject? A. Yes, sir.

"Q. Yes. A. Well, I should change it only to that extent, make "it one or two instead of three or four, to that extent."

A. I have in mind that Addicks testified that the 14th and 42d Street stations would be likely to be the first to be abandoned, and things of that kind.

Q. The testimony as to purpose of abandoning the plants
3187 here by way of replacement at Astoria was before the present act was passed of the present order was made reducing the price of gas to 80 cents, wasn't it? You understand that?

A. You say that the construction at Astoria was begun?

Q. No, the testimony of Mr. Addicks as to the intention of the company to remove its plant to Astoria instead of merely — produce a plant to take care of any excess as well as their present production, was given before the act was passed reducing the price to 80 cents?

A. I think in this case since then there has been some reference to 14th and 42d Streets being likely to be abandoned first. I think so.

Q. Well, I should like to have you look that up and show it to me some time. I haven't seen it.

A. Well, I don't remember where it was but I have that in mind.

Q. I would like to have you take Exhibit 94, which is the cost of gas for the calendar year 1905. You took for the actual expenditures the figures, as shown in this statement?

A. Yes.

Q. And questioned the propriety of charging some of them to the cost of gas. Dealing with these now I am assuming that the amount properly expended and that it is simply a question of where they should be put in?

A. Some were not expended, as I understand it.

Q. No, we will reach that in a moment. Now, as a matter of fact you first deducted the fixed charges from 74.81 cents?

A. Yes.

Q. That left 67.10?

A. 67.49. Then there was deducted interest on consumers' deposits, which was .39 of a cent; that would be 67.10.

Q. In other words, you deducted fixed charges and interest on consumers' deposits?

A. Yes.

Q. Now, Messrs. Addicks and Humphreys both deducted fixed charges, so there is no difference, as far as that is concerned?

A. No.

3188 Q. Interest on consumers' deposits they did not deduct. That makes a difference of .39 of a cent between you and them?

A. Yes.

Q. Now, with reference to the contingent expenses which are stated here at ten cents, contingent expenses including renewals and replacements, you deducted that and substituted what?

A. Substituted 5.31, I think it was.

Q. Yes, that is right.

A. It appears in table 13, page 3009.

Q. That makes how much, deducting the ten and adding the 5.31?

A. 62.42 cents.

Q. Now those represent the only deductions which you made from this Exhibit 94, if I assume that the expenditures for oil and other items were of proper amount, does it not, with the exception of the item of street lamps of $289,259.09?

A. No. I made other deductions.

Q. What were they?

A. Miscellaneous income was another.

Q. Just let me correct you for a moment. There is nothing on Exhibit 94 about Miscellaneous Income.

A. Oh, yes. Excuse me.

Q. I am getting now at the expenditures of the Company?

A. Well, I made a change in taxes. Did you ask a question?

Q. As to what you made? Another deduction for taxes?

A. Yes.

Q. I thought you were about to state what that was?

A. It was from 7.27 cents to 6.08 cents, as explained in Table 12 (page 3007); it was a deduction of 1.19 cents.

Q. If you deduct 1.19 cents from the previous amount you get what?

A. 61.23 cents.

Q. Now, in connection with taxes, you deduct taxes on income from other companies' securities amounting to $5,257.48 taxes on dividends in excess of 4 per cent. on $38,643,590.14, stock

3189 invested in securities of other companies amounting to $57,-965.39 both of which amounts you found that Messrs. Humphreys and Addicks included?

A. Yes, I think they did.

Q. Then in addition you took the interest on unpaid taxes $94,506.29 for that item?

A. Yes.

Q. Can you tell me how many cents this amounts to, $94,506.29, so I can see what the difference is in cents per thousand between you and these two gentlemen as to that item?

A. I shall have to divide it. I will divide by the gas sold which was 13,283,164. .71 of a cent I make.

Q. .7 of a cent?

A. Or .71.

Q Now that with the exception of the street lamp item to which I referred a moment ago includes all the deductions you made, assuming the amount of these items to be proper?

A. Yes, I think so.

Q. And that leaves you how much?

A. 61.23 cents.

Q. Now in 1905, testifying, you allowed the Company three cents for reserve or contingent fund?

A. Yes.

Q. Three cents per thousand feet on the theory that they were to remove to Astoria or were otherwise entitled to that reserve, did you not?

A. Yes.

Q. Now, I will ask you prior to taking up that subject to say how much your present computation would amount to if you add three cents to the 61.23?

A. 64.23, but in my testimony before the State Commission I deducted for lamps and miscellaneous income——

Q. I understand?

A. Which I have not done yet, I think.

Q. I understand. We will reach that point in a few moments. We are now dealing with the question of expenditures. Now on the subject of street lamps, they are included in this statement, and is it not a fact that the lamps are included in the expense of
3190 manufacture according to the form adopted by the Massachusetts Gas Commission?

A. Yes.

Q. And also the form adopted by the Gas Commission of the State of New York?

A. Yes. I am not sure about the latter.

Q. It is the same, I think. Did not Mr. Teal in his computations—Mr. Teal being the accountant of the Stevens Committee—leave the expenditure for the care and maintenance of gas lamps in his estimate of the cost?

A. Yes, but, of course, if you do that you have got to take the receipts not at one dollar, but one dollar and three cents or something.

Q. That is another proposition and we will come to that in a minute. But there is very substantial authority then for leaving this in the cost?

A. Yes. I stated that.

Q. I think with those authorities before us we will leave it so for the purposes of our present computation. Now, if you deduct that $289,000 which is expended in maintaining lamps from the operating cost of gas you will also deduct a similar amount from the receipts of the company?

A. Certainly.

Q. So that the difference between the operating cost and the receipts of the company which will be the fund available for dividends or interests on bonds, will be exactly the same in either case?

A. Certainly.

Q. So it is simply a question of how you should treat it?

A. That's right.

Q. Now, as a matter of fact the company gives certain attention and care and makes certain repairs, you know, upon the apparatus of private consumers, doesn't it?

A. Yes.

Q. And the dollar they receive from private consumers covers both the gas thus delivered and also the care that the company
3191 gives to the apparatus of the consumer, that is correct, isn't it? He gets it in no other way that you know of, does he?

A. I don't know what they charge for special services.

Q. Well, they do not charge anything for those services?

A. I suppose they do not.

Q. Then the dollar received from consumers covers both the gas delivered and the services rendered to the consumer?

A. That they call advertising generally.

Q. No matter what they call it.

A. Some repairs to meters and services they charge to repairs. Repairs to stations, I think, they charge it.

Q. But even those repairs are received back indirectly and ultimately from the money they receive from the consumer, and so, too, where the company makes a contract with the city by which it furnishes gas through lamps and at the same time takes care of the lamps, the lump sum it receives from the city covers both maintenance of the lamps and the gas furnished to the city?

A. I think there is a separate contract for that.

Q. No, not this year.

A. Well, a special statement in the contract to cover each point; special paragraphs.

Q. For some of them but not by any means recently. The contracts this year, as the evidence shows, are almost wholly for Welsbachs and they are for a fixed sum covering gas and care?

A. Is that true for this Exhibit 94 for the period covered by this exhibit?

Q. Yes, the same.

A. Yes. However that would not make any difference in my view of the case.

Q. It is a fact but it would not make any difference in your view of the case?

A. No.

Q. But you and I do not differ in this proposition, I suppose; that this expense of care and maintenance here to private parties or of city

lamps is an expense that the Company has to make as pre-
3192 liminary to getting back its money from the consumer?

A. I treat them both alike. When it receives money from the consumer for the rent of gas stoves, I take that just as I take what it receives from the City for the care of lamps.

Q. Now, let us take up the subject of miscellaneous income. You now have, including 3 cents reserve, 64.23 cents after deducting consumers' deposits and these amounts for taxes, all contingent expenses of 10 cents per thousand except an amount equal to the average of the twenty-one years, and fixed charges, and we find that the miscellaneous income altogether amounts according to your table No. 11 to $177,710.53?

A. Yes.

Q. How much is that per thousand feet?

A. I think 1.34 cents.

Q. And if you deduct that from your 64.23 cents you get how much?

A. 62.89 I make it. We have not yet deducted the lamps.

Q. If you deduct that from the operating cost of gas you must also deduct that from receipts on the other hand?

A. Certainly.

Q. And there will be no difference whichever way you treat it?

A. There will be quite a difference in——

Q. In what you call the operating cost of gas?

A. Yes.

Q. But so far as the main thing we are looking to, which is the amount of our profit to be deduced by the cost of gas, subtracted from the receipts, there will be no difference whatever because you will have to deduct it from both sides of the account if you deduct it from either?

A. That's right.

Q. So that, aside from the method of treating it in reaching the profits of the company available for dividends, the only difference between you on the one hand and Mr. Addicks and Mr. Humphreys on the other, is that you have deducted lamp expenses
3193 of .39 of a cent and you have deducted $94,000 of interest on unpaid taxes, making a total of about 1.1 cent, as I figure it?

A. I do not recall now whether they deducted the miscellaneous income or not.

Q. Yes, they did in that case. But whether they deducted the miscellaneous income or not from the operating cost, it would make no difference whatever, would it, because if you deduct it from the operating cost, you also deduct it from the receipts?

A. Yes.

Q. So it would be merely a different method of treating it in reaching the amount of profit available for dividends?

A. Yes, and I have done the same with the lamps.

Q. But, if the lamps are to remain in as an operating cost, that would make 61.23 cents as the operating cost before deduction of miscellaneous income; or if you allow three cents for reserve it would amount to 64.23 before deduction of miscellaneous income, or 62.89 cents after you have deducted 1.34 cents miscellaneous income?

A. Yes.

Q. Those figures I think I have quoted correctly. Now, in reference to this interest on unpaid taxes, which is $94,560.29 and which amounts to .71 of a cent, why should we not be allowed to charge that expense in the operating cost of gas?

A. Because you resisted taxes and it goes out of your own dividends, if you choose to—of course you may get it back, you may win.

Q. You understand the directors of a company are trustees for the stockholders and bound to protect their interests?

A. Exactly. That was a gamble they took on the dividends.

Q. Assuming that the company has assessed against it a tax as to which its counsel advises it that it is of sufficient doubt that it should be tested in the interest of stockholders, and it is tested that
3194 the company is unsuccessful, is it your theory if they acted with reasonable prudence in testing that tax that they are not entitled to charge that as an operating cost to their business, whether it is a gas company or an industrial company or a railroad company?

A. I should think the tax itself which was originally assessed if you had to obey it would be a tax and cost, but this is extra interest that was paid by reason of not paying the tax promptly.

Q. Yes, but if the interest accrues because they are advised by counsel that there is a sufficient legal question to say that the tax should be tested?

A. Well——

Q. And assuming that they act with reasonable prudence in testing a tax in the courts and they are defeated and have to pay interest on that tax when they come to pay it, isn't that, just the same as their attorney's fee in the case, a proper charge against the operating cost of the property?

A. Well, it looks to me rather as a gamble on the dividends.

Q. In other words, being a gas company, your theory is that they must not test even a doubtful tax unless they are prepared to take the interest on the tax if beaten out of their dividend instead of charging it as any other corporation does as an operating cost of the business?

A. I think it should come out of the dividend if they lose.

Q. If they win, how about that? Should it then go to the favor of consumers of gas?

A. No, they get it in the dividends then.

Q. Don't you know that taxes are constantly tested and fought for the express purpose not only of setting aside the existing tax but for the purpose of preventing the imposition of higher taxes in the future?

A. Yes.

3195 Mr. BURR: Are you referring to the action of this company?

Q. Do you not think that it is a prudent action therefore of the trustees, and that if they make a test on a tax with that in view, that it will ultimately come to the advantage of the consumers in preventing the increase of taxes?

A. Well, I have not thought so far as that, as to anticipate that.

Q. If it be a judicious action in the interest of lower taxes, which of course are an operating cost of gas, then any such thing as interest on taxes when it comes to be paid would be properly charged against the operating cost?

A. The consumer does usually get the benefit of these taxes.

Q. But he gets the advantage of high taxes, if they are accumulated, doesn't he?

A. It depends, of course, on limits.

Q. Don't you find that the taxes against the company here in the City of New York, 6.08, being after the deduction you have made, is a very substantial item in the cost of gas?

A. Certainly.

Q. And don't you think it is the duty of the trustees of the company in the interest of their stockholders, as well as the interest of the consumer, to maintain their contention that it is beyond a figure where it should reasonably and properly go?

A. Well, I should think there would be great limits to their duty, but of course, within certain bounds, which I won't attempt to fix now.

Mr. BURR: Do you want to appreciate the property for the purpose of capitalization?

Mr. MATHEWSON: Please do not interrupt, Mr. Burr.

A. I was about to add——

Q. But within certain limits you said, and what would be the conclusion?

3196 A. Within certain limits they would naturally seek to keep the taxes at a reasonable figure, but I think that when it goes so far as to incur a large interest change on the unpaid taxes, that there they are running a risk which should come out of dividends if they lose.

Q. Now, Professor, speaking perfectly frankly, is it not a matter which rests in the fair discretion of the directors of a corporation as to just when and how far they shall contest such matters as taxes which they may consider to be excessive as levied against them.

A. All expenses in *quasi-public* corporations must depend to some extent upon the judgment of the public as to their fairness, as well as the directors; the public is a silent partner in all *quasi-public* corporations.

Q. That may be a question to be debated, and I don't know exactly what you mean by the statement, but we will not debate it here.

A. I mean it is different from a private business.

Q. I see that in these items of miscellaneous income which you say should be credited appears stove rentals $122,322.60, forming the greater part of the $177,710.53 and therefore the greater part of the 1.34 cents which is the total of miscellaneous income. Supposing the Company went out of the business of renting gas stoves, that item of income would fail, wouldn't it, at once?

A. You mean if no other Company took its place?

Q. If this Company went out. Yes, if it determined to furnish

no more gas stoves on rental or sales, but to leave the consumer to to go to a hardware shop, that source of income would immediately terminate?

A. I don't understand that they would abandon their title to the stoves they now own and which appear in their inventory of assets.

Q. I am talking now about the miscellaneous income.

A. They would continue to get a rental on the stoves they now own, or so far as it brings them in a rental now it would con-
3197 tinue. It would not increase if they did not buy any more stoves.

Q. You know some companies do not deal in stoves at all, and some companies furnish free stoves?

A. Yes, sir.

Q. And if this Company thought it was wise to furnish free stoves, as many well-managed companies do, then there would be no income at all from stove rents?

A. Just the same as if they thought it wise to reduce the price of gas, it would reduce their income.

Q. But at the same time the expenditures would remain the same?

A. Yes, but this is not a condition which confronted me in this exhibit.

Q. But that is a condition which might occur?

A. Yes, sir.

Q. And didn't you testify before the Gas Commission that it might be just as well to add the stove rent to income, and that there was room for that argument?

A. I don't remember. I may have said so. I don't think so now.

Q. You don't think you did say so?

A. No, I don't think so now, that it should be.

Q. If you didn't so testify then you have changed your mind?

A. I don't remember what I testified.

Q. Well, if you did so testify——

Mr. BURR: I want to call counsel's attention to the fact that there is no evidence that many well-managed companies do furnish free stoves.

Mr. MATHEWSON: The Professor can correct that if it is not so. I have no objection to his correcting it.

The MASTER: I understood him to say that that was the fact.

Mr. MATHEWSON: Yes.

The WITNESS: I was looking over that matter the other
3198 day over seven or eight of the larger companies in Massachusetts, and I think only two or three had any stoves in their assets. I don't know very much about the cases of those two or three companies who do have them, but I think there are—I believe there are—some companies that do not charge stove rentals. I am not prepared to say whether the majority of companies furnish stoves free or not, but I feel it is fair to take this company at what it is now doing as the basis of our present discussion.

Q. You do not remember then whether you said before the Gas

Commission that it might be just as well to add stove rentals to income, instead of deducting them from distributing expense?

A. I don't remember now.

Q. Will you look at the original Gas Commission minutes at page 1579——

A. The typewritten testimony?

Q. Yes.

A. I haven't it here.

Q. I will be glad to let you look at it. I have it at the office.

A. If you say I did so testify, I will not dispute it. I simply said I did not remember it.

Q. That is my minute of it. Now, if I understood you correctly, after certain deductions, you obtained a figure of 29.09 representing the balance of the items which were included in distributing expense and stated that you divided that into four items which appear on table 13?

A. Yes, page 3009.

Q. What are those four items into which you divide this 29.09 cents?

A. I must first say—I have the table before me but I was looking for the testimony. It is 29.11 cents, I have it on page 3008, and in another place 29.09 cents. The testimony shows at the bottom of page 3007 that I deducted the 1.19 cents from 30.28 cents to get the 29.09 cents.

Q. Now, what were the four items which you said you di-
3199 vided the 29.09 cents into, and don't they appear on table 13?

Mr. BURR: Excuse me. In the middle of the page that 29.09 cents seemed to be changed into 29.11 cents. Is that the same, or which is the correct figure? You say that 29.11 cents should be divided into four items and you also refer to 29.09 cents in that connection?

The WITNESS: For the moment I do not remember, but I suppose the four items I must be referring to are the four which appear on table 13.

Q. Yes, I so took them down; 3.56 cents, 6.08 cents, 5.31 cents and 7 cents; but making the same supposition that you do now, that those are the four items making up the 29.09 cents, I added them and found they amounted to only 23.95 cents, if my computation is correct.

A. No, they make less than that, 21.95 cents.

Q. 21.95?

A. While the addition—no, add the column to the left, 3.56 cents, 7.27 cents, 10 cents and 9.45 cents and see what that gives. That is 30.28 cents, which I also had at the bottom of page 3007 and then I deducted the 1.19 cents from that and I got 29.09 cents. Then the 29.09 cents is the first column of table 13, aside from station cost after deducting the 1.19 cents for the taxes, I think that was.

Q. Yes, the 1.19 cents was taxes including the interest on the taxes?

A. Yes.

Q. Your present statement makes that ambiguity clear.

A. But I seem a little later to have called it 29.11. I think that was an error in speaking. It should have continued to be 29.09 cents. I think the difference of .02 cents slipped in there somewhere.

3200 Q. Now, if you will direct your attention for a moment to table 13 instead of other expenses "Aside from excluded items, 4.95 cents," which the company actually expended, you put in an arbitrary allowance of 7 cents or 2.45 cents less?

A. Yes.

Q. What would this 9.45 cents or your assumed 7 cents cover in general?

A. All the expenses of meter reading, collection of bills, management of the offices, rental of offices, so far as they were not owned, salaries, legal expenses, insurance, advertising, claims and damages, losses by bad debts, incidental expenses; those are the chief items; there are doubtless some others.

Q. How much would that 2.45 cents which you deduct from 9.45 cents to get your 7 cents amount to in dollars, or somewhere near?

A. About $325,437.52, as I make it, in a rapid computation.

Q. I understand you to take this $325,000 and over from our operating expenses and ask that the price of gas should be reduced so as to eliminate that, on the theory that in Chicago you figure out general expenses to be 5.73 cents?

A. That was the special reason I gave here. There are other companies whose expenses are below yours.

Q. That may well be. There are other companies whose expenses are above ours, are there not?

A. Yes, but there is no company that I think is as advantageously situated as yours is in this country for low distribution cost.

Q. Well, we will see about that a little later. As a matter of fact, the distribution cost with which you started in computing this 5.73 cents related to the Peoples' Company of Chicago, and you started with the figure of 17.234 as their distributing cost, less taxes?

A. Yes.

Q. According to the——

A. No, that included taxes, the 17 cents did.

3201 Q. According to their statement of distribution expense, that is the Peoples' Company's statement, it was nearly 22 cents, wasn't it?

A. Yes.

Q. And you eliminate certain items and bring it down to 17 cents or nearly five cents less, merely because the accountants saw fit to exclude certain items, is that right?

A. Yes, I took their report as correct.

Q. Now, what knowledge have you as to the relative cost of any individual items as between Chicago and New York entering into this 7 cents which you assume and the 9.45 which we expended?

A. The cost of labor is not very different in the two cities and the density of distribution is nearly three times as great per mile of main here.

Q. Have you employed labor in either city?

A. No.

Q. Do you know how the cost of collection compares as between the two cities?

A. No. I got data on labor, I might add. This company gave it.

Q. I know you have got it from one source and another, but it is very difficult, is it not, without knowing what each individual performs, to determine exactly the economy or otherwise of the labor?

A. It will be remembered that Mr. Burr asked for a payroll complete for a month, but I don't think it has been given him.

Q. Well, you have not had the advantage of that in your computation?

A. I had the monthly statement given by the gas company before the State Gas Commission.

Q. You don't know what the cost per thousand for collection of bills is and indexing of meters, in Chicago, as compared with New York?

A. No, the items in Chicago that made up the 5.73 cents or whatever it was, were not given.

Q. You know at some time there was a method in vogue in Chicago of having bills collected by consumers at the express
3202 company's offices at their own expense for transmission?

A. You suggested a year ago when I was under cross-examination that that was correct, but I have never learned that it was so.

Q. Do you know whether in Chicago the company's bad debts are included in their expenses in the 9.45 cents?

A. I understood it was included.

Q. Do you know how much they amounted to?

A. No.

Q. Do you know what the practice of the Chicago Company is as to charging off bad debts?

A. No. Now that I think of it, I am very sure that the item was included.

Mr. BURR: Which item?

The WITNESS: Bad debts, but the amount I don't know.

Q. Do you know whether the Chicago Company has any considerable item of rent to pay?

A. That question I don't know. These items of expense were never given to the public.

Q. Do you know whether they rent any bulkheads in Chicago as we have to for our business?

A. No.

Q. Do you know whether they have——

A. They have locations on the Chicago River, but what their relation to it is, I don't know.

Q. Do you know whether they have special inspectors imposed upon them by the city, whose salaries they have to pay in Chicago, as we have to pay them in New York?

Mr. BURR: Inspectors of election or what?

Mr. MATHEWSON: Inspectors of street works, or how that charge compares in the case of Chicago with New York.

3203 The WITNESS: I don't know the details of the Chicago account, as conditions of secrecy prevailed as to that.

Q. You have read the testimony, if you have read it all, that we have not only inspectors of the city which we have to pay, a large number, but we also have inspectors riding in the subways constantly to detect leaks, etc. There is no like subway in Chicago which has to be cared for by like inspection?

A. No, there is no subway, but the meter readers have to go over three times as much territory to read the same number of thousand feet of gas as here.

Q. Well, you are not prepared then to give any of the details which justify your lopping off $325,000 from our expenses which amount, to 9.45 cents, are you?

A. I argue only from the total there, and what I know from a few other places and my belief, but I think I stated that it was a preliminary estimate that would on that point await the investigation of the accountants.

Q. Well, you had last year before the Gas Commission quite a detailed statement, showing the number of foremen employed, the number of laborers at the different stations and what they were paid, in classes, and the amount of legal expenses that were paid, and the amount paid to the general officers, etc., and I would like to have you point out if you can, which men we are employing in excess of the men we require, and also which ones we are paying too much to, so that we can curtail?

A. That was a statement for December of a certain year, giving the number of men, chiefly, I think, and I believe entirely, connected with one of the stations. I don't think that it was a payroll—it was not a payroll in the first place, and in the second place I don't think it was an analysis of the distribution payroll, but
3204 rather of a station payroll, if I recollect right, a coal gas station payroll, 14th Street or 42d Street.

Q. Well you know that that exhibit which was made up at your request, and a very detailed exhibit, showed the amount payable for attorney's fees and payable for general office salaries and expenses, &c.?

A. I don't remember in detail.

Q. Have you read over the exhibits in the present printed record?

A. Yes. I meant the salary lists by individuals.

Q. But did you observe anything there which you can put your finger on and say that is not a proper expenditure?

A. I have not had a sufficiently full opportunity or sufficiently full exhibit before me to be able to tell that.

Q. Let us take the figures of these accountants to which you have referred in Chicago. Did these accountants have any practical knowledge of the gas business?

A. I know they have examined gas companies before. Just how much knowledge, I would not undertake to testify.

Q. Do you know whether they have any practical knowledge of the gas business?

A. I don't know.

Mr. BURR: Do you refer to Marwick, Mitchell & Company?
Mr. MATHEWSON: Yes.
Mr. BURR: The same accountants that are now examining your books on behalf of the defendants?
Mr. MATHEWSON: I don't know anything about that, I know there are thirty or forty men up there.

Q. Now you know, don't you, from this report of the Committee of the Common Council in Chicago, that these accountants were merely appointed "to verify the figures as presented by Mr.
3205 Meagher" on account of the gas companies, and not to make any deductions of their own at all because they were not gas men?

Mr. BURR: Is that the quotation?
Mr. MATHEWSON: I ended the quotation.

Q. And on the further understanding that "such accountant should treat as confidential the figures of the Company thus disclosed to him."
A. What part of the page are you reading from?
Q. Second column about half way down. I will read the whole of it if you wish: "Mr. Meagher, representing the Peoples' Company consented to have the Committee select a chartered accountant to verify the figures of the Company, and this arrangement was made with the understanding that because of pending litigation such accountants should treat as confidential the figures of the Company as thus disclosed to him, the purpose of this examination being only to verify the figures as presented by Mr. Meagher." That appears to be the statement in the report, doesn't it?
A. Yes, I had read that before. I remember it.
Q. And you understand further that these accountants, in spite of that, proceeded to present certain deductions which they were not asked by the Committee to make at all?
A. No, I don't understand that they did anything which they were not asked to do. I understood they were not to give the details of the items of distribution.
Q. You did not know then that they were appointed only to verify the figures as presented by Mr. Meagher?
A. Certainly, and they did not verify them, as they could not; they found they were wrong.

Mr. MATHEWSON: I move to strike that out.
3206 Mr. BURR: I object to its being stricken out.
The MASTER: Let it stand.
Mr. MATHEWSON: Exception.

Q. How do you know they were wrong?
A. I have their word for it in the report.
Q. Have you examined the books?
A. No.
Q. You have the word of the officers of the Company that the figures were right. How do you know that those figures are wrong as given by the Company and that the figures as presented by the ac-

countants are right, so far as they include the proper charges to the operating cost of gas?

A. Why, I know that this was the report of the accountants——

Q. Yes, but do you know that that is right for any other reason except that they made it?

A. I put it on the basis of the accountants having said so.

Q. You said you knew. Have you examined the books?

A. No. I do not find in any further publications of the Council or in any other place where I have read it that this report of Marwick, Mitchell & Company was followed by any disproof of their report.

Q. Merely a question of what should be charged to the operating cost of gas, and I think I can show you a little later from the conclusions of the Committee themselves that they did not accept those figures, certainly as complete. Now will you look at page 40 of this same pamphlet and see whether over the signature of Marwick Mitchell & Company, does not appear this statement, second column at the bottom; in relation to the figures which they presented and which you have quoted: "No allowance is however included in their statement for that wear and tear which is usually conceded to occur in excess of that which is covered by renewals."

A. Certainly.

3207 Q. So that their account on its face does not purport to show the proper amount which should be allowed to the Company for the cost of gas, does it?

A. It does not give the renewal and contingent account, neither did I include that in the seven cents which I took.

Q. That is all right, but I am reading the figures that have been quoted here as the cost of gas in Chicago to show that they did not include all the charges which must be made to the cost of gas.

A. But in their next letter, in the next column they state to the City Council, to the Chairman:

"Replying to your communication of even date, I wish to advise you that there is 6.0043 cents per thousand feet included in the figures for renewals and repairs in the year 1904 and included in the figures in the distribution of gas as shown by the Peoples' Gas Light & Coke Company in our report. Yours truly, Marwick, Mitchell & Co."

Q. You find, too, later that the City Council allowed four cents beyond that for repairs, don't you?

A. They allowed something. I don't remember the figures.

Q. We will therefore stop that for a moment and go back to another suggestion of yours. You say that the distribution charge ought to be small in the City of New York or smaller because the consumption is greater.

A. Per mile.

Q. Per mile. Does it not appear in Chicago the Ogden Gas Company's density of consumption on their mains was greater, nearly twice as great as the density on the Peoples' mains, and yet that the cost of distribution to the Ogden Company was greater than the distribution to the Peoples' Company?

A. I don't remember about any figures on the density of
3208 distribution of the Ogden Company. They may have been given. I have no knowledge either that the accountants investigated the Ogden Company. I have never found a report about it.

Q. Was not that called to your attention when you testified in the Chicago Investigation as rebutting your theory that the greater the density of consumption the less the cost of distribution?

A. Will you call my attention to it? I don't remember it.

Q. I think I can. Was it not also called to your attention before the Gas Commission here in the Consolidated Gas Company's case?

A. It may have been. I don't recall at the moment. But the return as I have it here of the Ogden Company's total costs was 47.67 cents of which 27.86 cents were nominal manufacturing costs——

Q. You do not need to do that, because I have the testimony right here and I think I can save you the computation.

A. If I can just finish this a moment. That left 20.81 cents as the distribution cost returned by the Ogden Company.

Q. 22.81 is it not? You had added 2 cents to the Ogden Company in order to make up a difference in candle-power, had you not, in order to get that 26 cents, whereas it is 24.86 cents before you added those 2 cents, is not that right?

A. Possibly. I don't remember.

Q. Don't you remember you added those two cents?

A. Possibly, but I think however that came in another connection.

Q. I don't think so.

A. I think 26.86 cents was their return, but 2 cents was only a bookkeeping charge.

Q. I have it right here in your testimony, page 1310:

"Mr. DeFord: Yes, go ahead and make any explanation you desire. A. The statement that I am objecting to is this, that I
3209 must compute on the basis of adding this 5.18 cents to the cost of the Consolidated Gas for the same candle-power at the burner, which is 24.86 cents."

Q. Don't you remember that it was 24.86 cents for the Ogden?

A. That is what I insisted was the cost to the Ogden, but they had made their return as 26.86 and afterwards their president had admitted to me that 2 cents was only a bookkeeping charge.

Q. To equalize the cost to the Peoples Company?

A. No, that came up later.

Q. Well, let me read from page 1312 of the testimony before the Gas Commission. I asked the question as follows:

"In Chicago can you tell me what the Peoples' Gas Company's distribution was or the rate per thousand? A. 21.71 cents.

"Q. Do you know what the distribution of the Ogden was? A. 22.81, or more than a cent greater.

"Q. You stated the other day that density had a great deal to do with the cost of distribution. A. The density of population.

"Q. Or consumption? A. Yes.

"Q. Did it not appear in Chicago that the density of the Ogden Company's consumption was about double the Peoples' although its

output was only a fraction? A. I don't think that was brought out while I was there. I don't know what has happened since."

Q. You did testify however that high density did not always give a cheaper distribution?

A. Other conditions affecting.

3210 "Q. (Reading:) Alderman POTTER: Yes, but Ogden, has it anything in density of consumption? Professor BEMIS: 'Yes.' A. I had forgotten that. Now, what was the density in Chicago?"

Q. Your reply was that you had forgotten it, and you see that Alderman Potter called your attention to the density there of consumption being twice as great.

A. I don't recollect even now how many miles they have or what their consumption is in the Ogden.

Mr. BURR: Do you mean how many miles of the 2,000 miles of mains?

The WITNESS: That was another Company, the Peoples' Company was 2,000, and they sold eleven billion feet. I don't remember about the Ogden mileage. I don't think I have any data about it.

Q. As a matter of fact the Ogden Company's sales were only about one billion feet?

A. I think that was their sales, but I don't remember their mileage.

Q. And their consumption it appears was nearly double in density per mile of main to the consumption of the Peoples', and yet it appears that the Ogden with that greater density of consumption had a distribution cost greater than the Peoples' doesn't it?

A. Well, I cannot discuss it much without having more of the evidence before me.

Q. But I have read your own evidence before the Gas Commission.

A. I should want to go through the whole case.

Q. If that evidence is correct——

A. I never did know a great deal about the Ogden Company. It did not go into evidence, and I never visited their plant and the accountants never examined their books, so far as I can learn.

3211 Q. What is your final answer, are you prepared to say now or are you not prepared to say that the Ogden Company's distribution was greater than the Peoples' Company according to the information you have?

A. At the present time I don't recall, but if you say that I at one time testified differently, probably it would be acceptable. I will accept it, that you read it correctly, but the facts about the Ogden I don't know. The Ogden Company may have been distributing only in a specially favored district in the city. I have never looked into their situation.

Q. It appears in the testimony here before this tribunal that the Consolidated Gas Company has mains in every street in this City that has been opened, the outskirts as well as the heavily populated sections.

A. But taking that all into account it sells three times as much

as the Ogden; certainly the Peoples' Company, and I think, as the Ogden.

Q. But that proposition would seem to be proven from the Ogden and Peoples' Companies that density of population only does not mean a lower distributing cost?

A. Not unless you know the circumstances attending the Ogden Company, and I don't know just where it sells its gas. It may sell to the Peoples' Company for all I know. A lot of the Companies do.

Q. If these figures you gave before the Gas Commission were correct, they would tend to show that density of consumption alone does not necessarily mean a lower distributing cost per thousand?

A. There may be other——

Q. Of course, but can't you answer that question?

A. It has the same tendency, just as the lowering of price has the tendency to increase sales, but there may be counteracting forces——

Q. (Question repeated). Can't you answer that directly?

A. Not necessarily, if other conditions are not fairly equal.

3212 By Mr. BURR:

Q. And those conditions in that case are not known to you?

A. And the conditions in the Ogden Company are not known to me at all.

By Mr. MATHEWSON:

Q. Don't you remember that the accountants in Chicago stated that they had not examined several of the distributing or other accounts bearing directly on the investigation as to the cost of manufacture or the distribution in Chicago?

A. Yes, but the inference they drew was that the cost would be still further modified.

Q. Well, we may draw inferences, but the point is that they did not have any definite information from which they made their report and they had not examined certain accounts?

A. No.

Mr. BURR: You are calling attention to what they claimed?

The WITNESS: This is what they wrote on page 40: "Had we had access to these accounts, the cost of manufacturing and distribution might have been somewhat further modified."

Q. It does not say whether up or down, does it?

A. No. I know what they think, though.

Q. I don't think such facts are very material, when you come to cut off $325,000 which we have made, as improper. Do you remember what you testified that the distributing cost in New York was, acual expenditures? *A.* In 1905, ending October 31, 1905?

A. Probably I took Exhibit 93. At that time I took their exhibit as it was.

Q. Well, you made certain deductions in order to make comparisons with Boston and other cities and you found that
3213 & 3214 the items you had left and which you called distributing expenses amounted to 16.24 cents, didn't you?

A. I don't have the figures in mind but if you say I did, I will accept it.

Q. Well, I will let you see.

A. That must have included some items not in this. Very likely it included repairs or taxes.

At 4.10 P. M. adjourned to October 23, 1906, at 10.30 A. M.

Last Exhibits:

Compalinant's 256.
State's W.
City's 59.

3215 Circuit Court of the United States. Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, TUESDAY, *October* 23, 1906—12 m.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Burr and Mr. Kirby.

3216 Continuation of the cross-examination of EDWARD W. BEMIS.

By Mr. MATHEWSON:

Q. We were referring yesterday to the cost of distribution and the effect thereon of density of consumption and——

A. I have never meant to imply that density was the only important element; size of the company is an important element. Density affects the expense of meter reading and many things of that kind; the size of the company affects the salary list per thousand feet.

Q. What do you mean by the size of the company, the output in thousand feet?

A. The number of feet of sales.

Q. We found yesterday that the Ogden Company, operating in Chicago, had a higher distribution rate than the People's Company although the density of consumption in the Ogden was about double that of the People's.

A. May I read my testimony on that in the Chicago case verbatim, which I have here?

Q. I don't think it is necessary to.

A. Well, I dispute the fact, then, that there was any practical difference between the distribution costs of the two companies.

Q. Very good; supposing you assume them to be the same, that is not very material to my point. The density of the consumption of the Ogden Company appears, so far as it appears at all, to have been about double the density of the People's, and yet the distribution expenses of the Ogden Company per thousand feet appears to have been no less than that of the People's.

A. I am not prepared to admit that there was any such difference as double density. I have here the last report of Brown's Directory, which shows a different result.

Q. Well, I don't think very much of that for an authority,
3217 but does not the evidence in Chicago show that the density of consumption in the Ogden Company was greater than in the People's?

A. A little greater, but not double.

Q. Is it not stated in the evidence that it was double?

A. I am not aware of it. If you will show me the evidence I will look at it.

Q. Well, that is my recollection of it.

A. I haven't any such recollection.

Q. Now, we will take your other proposition, that the greater the company the smaller the cost of distribution. Now, it appears that the output of the Ogden Company, as you stated yesterday, was about 1,000,000,000 per annum, and the People's Company was about 11,000,000,000 cubic feet per annum, and yet you say that the cost of distribution was substantially the same.

A. Not as found by the accountants.

Q. Well, the accountants did not find out anything about the Ogden Company, did they?

A. No, they did not look at that, but they did the other.

Q. Well, the statement as presented by the People's Company and the Ogden Company showed, so far as their figures were concerned, that the Ogden distribution was about 22.81 and the People's distribution about 21.71 cents, didn't they?

A. The distribution cost of the People's Company as claimed by them was 21.71 cents.

Q. And the Ogden was what?

A. 22.81 cents, but the taxes of the Ogden are a little higher, so the taxes being eliminated I testified the costs in each is about the same.

Q. Precisely?

A. That is the cost as reported.

Q. Well, but that is the only [illegible] is upon which you can make any comparison, is it not, because you did not examine the Ogden figures?

A. That is right, so far as the Ogden is concerned.

Q. Well, that is the only basis of comparison that you
3218 have, that is, the reports of the two companies, is it not?

A. The fact that the accountants were able to make and did make or find great reduction in the cost of distribution in the case of the People's Company does not seem to establish the probability that they would have done so in the Ogden, because experience

throughout this country and Europe tends to establish the fact that the large company has lower costs, and I am not prepared to admit that it is even probable that an examination of the Ogden by Marwick, Mitchell & Company would have shown a different result.

Q. Well, so far as the reports of the companies were concerned, which was what you were dealing with in your testimony before the Gas Commission, it appears that the Ogden distribution was certainly as much in cents per thousand as the People's?

A. Just about the same.

Q. Yes, and the Ogden, on the other hand, had an output of 1,000,000-cubic feet per annum, as against 11,000,000-cubic feet per annum by the People's?

A. Yes, but——

Q. That would not indicate, then, would it, that great output was necessarily going to make a smaller distribution cost per thousand feet of sales?

A. But such absolute discredit has been thrown on the report- of the People's Company that you cannot place any credit on them.

Q. You are referring to the accountants?

A. I am.

Q. Don't you think that accountants who are not acquainted with the business are quite fallible?

A. All people are fallible.

Q. You dwell so much on these accountants' figures, that I want to inquire whether the Water Works Company at Cleveland of which you are superintendent hasn't been examined and investigated recently?

A. Yes, at my request.

3219 Q. At your request?

A. Well, by Marwick, Mitchell & Company, or others; which do you mean?

Q. I do not say by Marwick and Mitchell. I say they have been examined.

A. Yes.

Q. And an expert accountant was appointed to go over the books, wasn't he?

Mr. BURR: I object to this as incompetent, irrelevant and immaterial. I do not see what this is leading us to.

Mr. MATHEWSON: You will in a minute.

Mr. BURR: Before you go further, I want to know what you are going to lead us to. What is the object of the examination of this witness as to an examination of the water works in Cleveland?

The MASTER: It seems to me that is proper cross-examination. He has based a lot of statements here on figures of expert accountants, and I do not know but what Mr. Mathewson may be going to show that at some other time the said expert accountants were no good.

Mr. MATHEWSON: That is about it.

The MASTER: I cannot tell at this stage.

The WITNESS: I would like to have him go on, really.

Mr. BURR: I withdraw the objection.

Q. (Question repeated.)

A. Yes.

Q. I refer to the expert accountant who was appointed by the committee of the City Council, wasn't he?

A. Yes.

Q. And he hadn't any great familiarity with the water business, had he?

A. No.

Q. And he made certain recommendations with reference to the character of your accounts?

A. Yes.

Q. And so on, which you now declare were fully unjusti-
3220 fied?

A. Yes, the committee discharged him in disgust.

Q. And then they got another one?

A. Yes.

Q. And this other one made an examination?

A. Yes.

Q. And the result was that they found there that the accounts were not in the proper shape, and that they could not figure out expenses and receipts, etc.?

A. That is not the report of the accountant, no.

Q. I am talking about the committee.

A. The committee of two members of the opposite party, who were trying—who had a particular axe to grind——

Q. But the point is that the report——

Mr. BURR: I object, because this is entirely and plainly immaterial and has no bearing upon the facts in this case. I object to it as incompetent, irrelevant and immaterial.

The MASTER: Objection overruled.

Mr. BURR: Exception.

Q. Now, Professor, your conclusions were, and you strenuously maintained, didn't you, that the findings of the accountant, so far as he found anything, and of the City Council, they not being acquainted with the water business, were misleading and incorrect?

A. No, that is not a correct statement.

Q. What is the correct statement?

A. The correct statement is that there were two accountants at different times. The first was discharged by the committee in disgust. He had been employed by the electric light company, which had an especial grievance against the city, and they were afraid of the question of municipal ownership, and he was working for them and was employed by the committee. When they found that out they discharged him. The second accountant I found no
3221 fault with, and neither have I found any fault with his report. The committee of the City Council, composed of three members, has made a report, two members have made a report, composed of Republicans who had special reasons for fighting Mr. Johnson, and there is a minority report just going into the Council.

Mr. BURR: What Johnson?

The WITNESS: Mayor Johnson of Cleveland; and the whole matter has been referred to the Judiciary Committee of the City Council, which has the matter under discussion now, and I am prepared to discuss the points raised, if you wish, by the committee, but I have made no report antagonistic to the findings of the second expert bookkeeper; in fact, his report was favorable to the water works, I may add.

Q. Who was the second bookkeeper?

A. Mr. Williams.

Q. You find fault, then, with the conclusions of the committee who appointed the expert, made after the expert had reported, and not the expert himself?

A. That is right.

Q. And your conclusion is that the report of the committee, the findings of the committee, in that case, not being acquainted with the water business, were unjustified and improper?

A. Absolutely, and prejudiced to the greatest extent.

Q. Now, let me ask you about these so-called expert accountants of Chicago. Did they give any testimony in that proceeding at all?

A. All I have seen are two letters.

Q. You know, don't you, that they never appeared, and were not subjected to cross-examination?

A. They were ready to appear, I understand.

Mr. MATHEWSON: I move to strike that out.

Mr. BURR: No, I think that is——

3222 Q. I asked you if they appeared and were subjected to cross-examination?

A. I only know what appears by the evidence.

Q. Do you know whether they appeared and were subjected to cross-examination or not?

A. I am informed, on what I believe to be good authority, that a member of the City Council offered to have the entire report taken up by items with Marwick and Mitchell and the bookkeepers of the company present, and it was not accepted by the company.

Q. You get that information. Do you know anything about it yourself?

A. I was not present.

Q. You do not find any evidence there, do you, of these accountants in Chicago at all except that from statements that are in that pamphlet to which we have been referring?

A. I have been informed on this fact by the accountants.

Mr. MATHEWSON: Will you read the question, please?

(Question read by stenographer.)

The WITNESS: I find no official evidence save that.

Q. You read the testimony of Mr. Marks in which he said it was impossible for accountants who were not practically acquainted with the gas business to examine records and make a proper deduction?

Mr. BURR: Adding, unless they were guided by competent engineers. That is what Dr. Marks said.

A. I don't remember his testimony sufficiently to quote it, but I think it was along that line, in somewhat of a general way.

Q. Well, we will proceed on this subject, of cost of distribution and size of cities. It appears, does it not, according to my last question of yesterday, that your testimony as to distribution
3223 in New York for the nominal year ending October 31st, 1905, excluding taxes for comparison, was 16.94 cents?

A. I don't remember now what the 16.94 referred to.

Q. Don't you remember what that referred to?

A. No, I have not had time, I have been so busy with this testimony, to go over my testimony in that case. I know there was a figure 16.94 cents, but just what it included and what it excluded I don't now quite recall.

Q. Well, you remember comparisons were made between that figure and the distribution cost in Boston, don't you?

A. Yes, sir.

Q. Perhaps I can refresh your recollection?

A. My impression is that I took the figures of the company, of the Consolidated Company, in my testimony last spring.

Q. Oh, yes, I am assuming that you took the statement Exhibit 93 or its equivalent?

A. Yes.

Q. And from the information you then had before you you did not question the propriety of the expenditure for any one of the items that appeared on that exhibit, did you?

A. I don't think I gave a complete bill of credit to the company, but I did not—I think I took the ground that I had not data at hand sufficient to dispute it, save that I did refer to the fact that distribution costs were lower in some other places. I am positive I did that. And in that way I threw discredit on their report, but I made computations based on their reports.

Q. Well, now, I am going to read from your testimony before the Gas Commission and see if I can refresh your recollection. Page 1331:

"Q. Now, returning to the subject of distribution, it appeared at the last session that while the output of the People's Gas Company in Chicago was much greater than the output of the Ogden Company, the distribution charge of the People's Gas Company was
3224 greater than the distribution charge of the Ogden, which rebutted your theory that the greater the distribution the smaller ought to be the distribution expense? A. Yes.

"Q. And it also appeared that although the Ogden density per mile of main was double the People's, yet the Ogden's cost of distribution was greater than the People's, which also rebutted the theory that the expense of distribution depended on density. Now it also appeared that the cost in Boston of distribution was 18.76 cents, as against 16.94 cents in New York, or nearly two cents greater. That is correct, is it? A. I think those figures are correct.

By Chairman GUNNISON:

"Q. Do you want to verify these figures? A. The evidence has

been given on that in a previous volume, but I don't think they are wrong."

Mr. BURR: There is some more in that statement which you have not read.

Q. "There are often exceptional conditions." Now is that a proper quotation, is it an exact quotation from the testimony before the Gas Commission?

A. That is an excellent illustration——

Q. I must ask you to answer my question. You are not going to sum up this case. Your counsel can get such facts as he wants. I am asking you a simple question, whether that is an accurate quotation from your testimony before the Gas Commission, so far as it goes?

A. Yes, but it was not an accurate reply when made, and should not have been made.

Q. That is another proposition. There may be others?

A. Yes. I think I said altogether too much on cross-ex-
3225 amination. I have discovered that. May I testify wherein I think I was inaccurate in my reply there?

Mr. MATHEWSON: Well, Professor, I think really we will get through much quicker if you will let me ask my questions, you answer them, and then make any further explanations that you wish, on redirect, because it interferes with my line and does not do you any good.

The WITNESS: All right, sir.

Q. Now you say that your statement was inaccurate?

A. Yes.

Q. Is it not the fact that the distribution expense in Boston, deducting taxes, you computed to be 18.76 cents?

A. That may have been. My amount referred to another portion of the paragraph.

Q. Well, is it?

The MASTER: Cannot you answer these questions directly? We lose a lot of time getting a direct answer.

Q. Isn't it a fact that the distribution cost you computed to be in Boston 18.76 cents after deduction for taxes?

A. If it says so there, I must admit it.

Q. Doesn't it say so there?

A. Well, you read it.

Q. Don't take my word for it. I might not be reliable (handing book to witness).

A. It says 18.76 in Boston; 16.94 in New York.

Q. And you were asked then if you wanted to verify these figures, and you said that you did not think they were wrong at that time.

A. The question referred to the whole paragraph.

Q. (Reading.) "Do you want to verify those figures?" Now, the only figures in that paragraph are 18.76 for Boston and 16.94
3226 for New York? Aren't they the only figures in that question at all?

A. No.

Q. What?

A. No.

Q. What other figures?

A. That the density of the population per mile of main was double that of the People's Company.

Q. I will leave that out, I am not referring to that. I am referring to the cost of distribution in Boston and New York; those figures. The Chairman asked you if you wanted to verify those figures, did he not, and you replied, "I don't think they are wrong"?

A. Yes.

Q. Now let us proceed a step further. The distribution being 18.76 cents in Boston—that is the largest city in Massachusetts by far, is it not?

A. Yes.

Q. And according to your theory the distribution expense should be smaller than it is, in small cities. Let us see whether that is so or not. You referred in your testimony before the Gas Commission to the distribution expense in the seven next largest cities in the State to Boston, being Lowell, Lynn, Fall River, Cambridge, Worcester, Springfield and Lawrence, did you not, at page 2178 of the printed record before the Gas Commission?

A. Yes.

Q. Now, those are the same cities, or many of them are the same cities, which you and Professor Marks have been dealing with on this hearing?

A. Yes.

Q. Will you tell me what the distribution expense appears to be in those cities, less taxes, to compare it with Boston?

A. 17.03.

Q. In other words, those seven smaller cities show a lower distribution cost per thousand feet than Boston, which is 18.76 cents, do they not?

A. This is according to Exhibit 161, page 2178 of the printed testimony.

3227 Q. Have you any doubt about it?

A. I have not at present.

Q. Didn't you, in fact, before the Gas Commission testify that the distribution cost of these seven cities was 16.01 cents per thousand feet, and were you not corrected by this exhibit which was shown you?

A. I think so. I know I testified they were lower.

Q. So that would not tend to prove your theory that the larger the city and the larger the output, the smaller the distribution expense per thousand feet?

A. That particular fact would not, no.

Q. Isn't it a fact that the companies operating in great cities like New York and Boston are subjected to a great many impositions in the way of expensive pavements in the case of repairs, and metropolitan exactions of one kind or another, such as inspections, abatement of nuisances and other things which increase or tend to increase the expense of delivering gas?

A. Certain items of that kind do tend to increase it.

Q. And it would appear in this case, would it not, that Boston, in spite of having a much greater output, had a distribution expense greater than the small cities, due, perhaps, to these additional burdens that it had to bear which the smaller cities did not?

A. When you say perhaps due to that cause, I do not assent without further explanation, but that it was right as to the small cities I agree.

Q. In other words, it would appear from this, would it not, that certain cities of sufficient size to have what you might call a wholesale output and were not of sufficient size to be subjected to these metropolitan exactions, might have and do have a smaller cost of distribution per thousand feet than a greater metropolitan city which has a larger output.

3228 Objected to as assuming something. The Professor has not conceded these metropolitan exactions.

Mr. MATHEWSON: He said that there were, just a moment ago.

Mr. BURR: He said, "perhaps."

Mr. MATHEWSON: No, that was something else.

The WITNESS: In the case of Boston, I said "perhaps" as compared with the other Massachusetts cities. I did not say on that that I knew that.

Q. And your answer would be "yes," would it, to my question?

A. I answered that in some cases that was true.

Q. And in these cases it would be true?

A. But as to Boston as compared with the other Massachusetts cities, I said I was not prepared at the present time to analyze the difference in the cost of distribution.

Q. No, but you have testified in Boston during that time, have you not?

A. Yes. In one case.

Q. And you have made a very careful analysis of the Boston cost of distribution and also a very careful consideration of these other seven cities for the express purpose of testifying before the Gas Commission on the relative cost of distribution?

A. I remember in a general way that salaries in Boston were exorbitant as compared with these other cities, and that was the chief reason for the difference, but I am not prepared now to present a table, as I can in twenty-four hours, giving the exact difference and where it lies.

Q. I don't care where the exact difference lies. I would like the general rule. Isn't it true as a general rule that the salaries are higher in a great city like Boston or New York than they are

3229 in a small community?

A. They are likely to be, but Boston was then composed of six—really seven—companies which maintained, to a certain extent, an independent organization, not fully, but in considerable measure; and there were expenses there which do not exist in the case of the Consolidated, which has been consolidated for twenty years. That company effected a consolidation after my testimony. There had

been a partial consolidation previously, but it had not been fully carried out; and even now, I do not think, has been completely carried out, as far as the reduction of expenses is concerned.

Mr. MATHEWSON: Will the Stenographer please read the question?

The STENOGRAPHER (reading): Isn't it true as a general rule that the salaries and wages are higher in a great city like Boston or New York than they are in a small community?

A. Absolutely yes; per thousand feet, salaries would be lower in a big city.

Mr. MATHEWSON: I move to strike out, "per thousand feet, salaries would be lower in a big city."

The MASTER: Strike it out.

Mr. BURR: I except.

Q. Now, isn't it true that the physical conditions in Boston are more nearly similar to those in New York than those on any other great city that you can mention?

A. I don't think they are any more like New York than is Chicago, nor so much.

Q. You don't think so?

A. No, because at that time Boston was not one company while Chicago was—that is the People's was one company, in a complete sense.

3230 By Mr. BURR:

Q. How about Philadelphia?

A. (No answer.)

By Mr. MATHEWSON:

Q. I am talking about physical conditions?

A. Excuse me. I thought you were talking about the general considerations.

Q. I said physical conditions. Now, won't you answer the question?

A. I still think there is no great difference in the physical conditions in the three cities, save that Chicago is nearer in population to New York than is Boston. I should say Chicago was nearer in physical conditions to New York than is Boston.

Q. Has Chicago any rock to deal with in laying their distribution system?

A. No. That affects the cost of construction.

Q. How about Boston and New York?

A. As affects the cost of operation—I don't think Boston has much rock. According to my recollection of the testimony neither Boston nor Chicago has much rock.

Q. Do you mean to say that Boston has not much rock?

A. I don't recall—and I have read all the testimony in the Boston case, that there was evidence of any considerable amount of rock in connection with street mains. The whole Back Bay District I remember is a filled-in district.

Q. Is Chicago flat?

A. Yes.

Q. How about New York and Boston? They have substantial elevations, each of them, haven't they?

A. Yes.

Q. Boston and New York are both very much older cities than Chicago, are they not?

A. Yes.

Q. They both have many old and narrow streets, with congested traffic therein, haven't they?

A. Yes.

Q. Are not the streets of Chicago laid out on a much
3231 broader scale and more modern, less winding, than the streets of either New York or Boston?

A. Yes.

Q. Let me read from your testimony at page 1322 before the Gas Commission:

"Q. You finally took up the city of Boston. Didn't you say in the "Boston investigation that the conditions in Boston and New York "were more nearly alike than perhaps in other cities you could "mention in reference to their distribution system? A. Boston, "next to New York, has, I think, a dense population, but nothing "like it. It is only a third as condensed as New York, but it per- "haps comes nearer to New York than most other cities.

"Q. As a matter of fact, both New York and Boston have many "old, narrow streets? A. Yes.

"Q. Each of them has a subway to deal with, so far as that affects "conditions at all? A. Yes.

"Q. And each of them has a great deal of rock haven't they? A. "Yes."

Now, do you mean to say now that Boston has not a great deal of rock? A. My recollection is I was wrong in saying a great deal of rock in Boston.

Q. That is another case where you were wrong? Is there anything further in those answers that was wrong?

A. I believe on further investigation of the case that in some respects Boston is nearer like New York than in some respects Chicago. When you come to balance the two I will say that in the matter of size, in the matter of maintaining street mains on account of electrolysis, in the expense of wages and of labor, Chicago is nearer like New York than is Boston. Also in the fact that
Chicago makes almost entirely water gas, while Boston has
3232 only about one-third water gas, is again a reason why Chicago is nearer like New York than is Boston. On the other hand, as has been just mentioned, Boston is an older city and in that respect nearer like New York than is Chicago; and the streets are narrower than Chicago, and there may be, probably is, more rock proportionately in Boston than in Chicago, but I don't recall now the percentage.

Q. Let me continue to read:

"Q. And each of them has a very condensed population in certain parts of the City? A. Yes. I do not think the density is anything like as great in Boston.

"Q. But you said the distribution cost in Boston was 18.76 cents,

as against 16.94 cents in New York. In other words, Boston is nearly 2 cents per thousand greater in distribution than New York, upon the most favorable basis for New York? A. Yes.

"Q. Is not the re-location of the pipes there very expensive, where there is such a congestion of traffic? A. Yes.

"Q. Do you know what the legal regulations of New York are in reference to permitting us to open the streets and allowing long trenches to remain open? A. I have not looked that up.

"Q. Do you know what the condition is in the streets of New York as to sub-surface work, the amount of pipes, and whether there is room for extra pipe, and how deep we can lay pipes?

A. I know it is greatly congested here, because I have seen men working in them.

"Q. Do you know that if sometimes takes our gang as much as a week to get our pipes around a single corner on account of
3233 the subway traffic?

A. That subway involves heavy repairs."

Is that all correct?

A. That is correct, yes.

Q. On page 1324:

"Q. Can you think of any other city which, in its change of conditions as to pipes, comes as near New York, we will say, as Boston, as to location in the East and general conditions? A. No, I don't know that I can.

A. In the East, you say?

Q. Do I quote that right: "As to location in the East and general conditions"—not in the city—in the East?

A. Let me see that once more.

Counsel hands book to witness.

The WITNESS: No, I don't know that I can. I undoubtedly said that.

Q. Now, when you speak of Western cities and you come to operation, you know that gas coal, and you know that the oil, is very much cheaper in the West than it is here in the East, New York or Boston, don't you?

A. Oil is cheaper in the West; that is, as far west as Chicago. It is cheaper than here.

Q. Don't you know that the gas coal is in the making of coal gas very much cheaper in Ohio, for instance, than it is in New York?

A. I am not sure about Chicago. I think coal in Chicago may be—I have not the exact figures, but I think gas coal in Chicago may be quite as expensive as in New York.

Q. Do you know whether it is or not?

A. I never got absolute data, but the anthracite coal goes further—

Q. They don't make coal gas in Chicago, do they?

3234 A. In making water gas they use anthracite coal and coke.

Q. Under the boilers?

A. In the generators.

Q. When I refer to gas coal you know that I mean coal which is used to produce coal gas, do you not?

A. Oh, excuse me. I was not for the moment noticing what you

said, and I thought you said any coal that might be used in making gas.

Q. I refer to gas coal.

A. Of course they don't make any coal gas in Chicago, so if I had noticed what you said I would have said there was no gas coal such as you refer to used in Chicago. To be accurate, I must say there was none at the time I was testifying there. I have since understood there is a coke oven plant being put in there which will undoubtedly use gas coal.

Q. Now, the figure of 64.23 which we procured at page 3193 of the testimony yesterday, including 3 cents allowance for reserve, did not include, did it, any allowance for the additional candle-power required of the Consolidated under the recent act raising the standard from 20 to 22 candle-power? It was merely for the period, as I understand it, for which you were computing, that is, the calendar year 1905?

A. It was either the calendar year or the year ending October 31st, I have forgotten which now.

Q. That was the calendar year which you were dealing with there certainly, with 74.81 cents?

A. Oh, yes. Well, that did include then——

Q. It included six months of the new law?

A. Yes.

Q. Now, the Gas Commission, as you have read no doubt, taking the nominal year ending October 31st, 1905, which included four months of the new 22 candle-power, made an addition of 1.81 cents to their computation in order to cover the new candle-power. On that ratio how much would be added for the six months?

3235 A. Well, that is purely a mathematical computation.

Q. Well, make some estimate of your own, roughly?

A. On that basis it would be 2.7 cents.

Q. Oh, no, that could not be, because there was only 1.81 they added to the cost for the nominal year to represent the cost for 1906, we will say, due to the additional two candle power.

A. Why, if for four months the extra cost is 1.81 cents, then for six months it would be six-fourths of it. That was what I was doing.

Q. You misunderstand. The Gas Commission found 60.75 cents as the cost for the nominal year ending October 31st. They said that as only four months of that year were under the 22 candle-power law, they would add to the 60.75 cents 1.81 cents, making 62.56 cents.

Mr. MATHEWSON: That appears in the opinion of the Gas Commission attached to the papers.

Mr. BURR: That was excluded, I understand.

Mr. MATHEWSON: Oh, no. It is expressly admitted by the City in their answer.

Q. Now, the period which you have taken, the calendar year, included six months of the 22 candle-power?

A. Exhibit 94 takes six months, yes.

Q. Now, what amount should be added to the 64.23 which we have

if we wanted to represent a subsequent period dealing only with 22 candle-power?

A. Oh, if you want to take the twelve months' period?

Q. Yes. It would be about one cent and a half, wouldn't it?

A. Why, on that basis of reasoning, if it took for four months 1.81 you want to know what it would take for twelve months?

Q. No.

3236 A. It took 1.81 for increase for four months, what would it take for twelve months, isn't that your question?

Mr. MATHEWSON: Will the Stenographer read the record?

The Stenographer now reads the record down to the end, starting with the question, "You misunderstand me. The Gas Commission found 60.75 cents as the cost," etc.

Q. You would have less than 1.81 in that case, because you would have six months of that 22 candle power in that period, whereas the Gas Commission had only four months of the 22 candle power in their period?

A. Yes.

Q. Well it would be roughly upon that basis one cent and a half?

A. Well, I will assume that without stopping to figure it out.

Q. Or one quarter— I don't know, it is something around there, isn't it?

A. Very likely.

Q. And whatever it is, that is not included in the 64.23 cents which we were computing yesterday, is it?

A. No.

Q. Now, furthermore, it appears in the evidence that for the year 1906 there have been assessed against the constituent companies which formed the Consolidated additional taxes which never have appeared before and that the special franchise tax or assessment has been increased $4,600,000, and that the increase in taxes from those two items alone would be 1.13 cents, if they are maintained. That amount has not been included either so far, has it?

A. No.

Q. Did you find that quotation in your testimony before the Gas Commission to which I referred you where you said that miscellaneous income or stove rent which formed the greater part of

3237 it might perhaps as well be added to income?

A. I did not look for it.

Q. You are willing to accept my word, as far as that goes?

A. If you say it is there I believe it.

Q. I think so. That is my quotation. I suggest you look it up if you have any doubt about it?

A. I should have said offhand that I deducted miscellaneous income.

Q. You did in your final computation, Professor, but that was some time subsequent to the statement to which I called attention, that perhaps it might as well be added to income. You stated in another place that was open for argument. Those are your exact words I think you will find.

Now I take up with you the subject of this reserve to see whether

your theory is correct or not. It appears that of the twenty-two past years the first eleven years show an average of repairs and renewals of 12.25 cents, according to your testimony, and the second eleven years an average of 9.73 cents. Now as a matter of fact the Company began purchasing gas in 1900 and it is in evidence that for the last five years prior thereto, being the last five years within which the Company manufactured all the gas which it sold, the average repairs were 12.31 cents per thousand. Have you taken into consideration the fact that since the Company has been procuring gas from other companies, that is since 1900, there were certain repairs and renewals covering the gas which is required from other companies, which are not included in repairs and renewals of the Consolidated Company at all?

A. I have. I guess that is so.

Q. And there would be some additional repairs and renewals?

A. Yes.

Q. And if the Company were manufacturing, or as soon as it commenced to manufacture its own gas entirely, there would be
3238 additional repairs and renewals due to this 3,000,000,000 feet or such a matter which is now procured from other companies?

A. If it stops buying from them——

Q. If it manufactures its own gas?

A. Yes.

Q. And isn't it true too that the repairs and renewals in a coal gas plant are greater than they are in a water gas plant?

A. Yes.

Q. So that the Astoria being a coal gas plant, there would be additional repairs and renewals which must be considered there over what there would be even in the water gas plant?

A. But the full expense is not necessarily increased.

Q. You answer too much in a single question. I am getting a single point for the moment.

A. Well, it is true that the repairs are greater in a coal gas than in a water gas plant.

Q. And in taking into consideration that subject of repairs and renewals we must take into consideration the fact that Astoria is a coal gas plant for its first four billion annual capacity at least.

A. Yes.

Q. So that it is not entirely accurate while we are procuring gas from other companies to take merely the repairs and renewals of the Consolidated and say that that represents the repairs and the renewals chargeable to the entire volume of gas which we sell.

A. Although there are other reasons for my statement, if you wish me to give them.

Q. Well, I asked that question at the moment?

A. I think my statement was fair, taking all things into consideration, but as far as your coal gas is concerned I should agree with you and say yes.

Q. Now, take the Massachusetts municipal plant. Have you the Act here?

A. Yes. Pages 314 and 315 of the Acts and Resolves of the Legislature, Session of 1906.

Q. This is the one to which you referred and which provides for a certain depreciation fund among other things?

A. That is the Act, yes.

3239 Q. Chapter 411 of the Acts of 1906 of the Commonwealth of Massachusetts?

A. Yes, if you say that is the number. I haven't it in mind.

Q. I think so. Section 21 as amended by this Act reads in part as follows:

"Prior to the beginning of each fiscal year the manager of the plant shall furnish to the mayor, selectmen or municipal light board, if any, an estimate of the income from sales of gas and electricity to private consumers during the ensuing fiscal year and of the expense of the plant during said year, meaning the gross expenses of operation, maintenance and repair, the interest on the bonds, notes or script issued to pay for the plant, an amount for depreciation equal to three per cent. of the cost of the plant exclusive of land and any water power appurtenant thereto, or such smaller or larger amount as the board of gas and electric light commissioners may approve, the requirements of the sinking fund or debt incurred for the plant, and the loss, if any, in the operation of the plant during the preceding year."

Q. Now, under the Municipal Act of Massachusetts there is set aside a sinking fund to take care of the plant which is, of course, charged against the consumers of gas, isn't it?

A. Yes.

Q. And there is named three per cent. as the cost of depreciation which may be enlarged or reduced, but that is the figure the act names?

A. Aside from land and water power.

Q. Now, if you take three per cent. and apply it to the Consolidated Gas Company's depreciable property, which it is fair to assume is not less than $20,000,000, perhaps even upon your

3240 figures—we think it is a great deal more than that—what would that make per annum?

A. $600,000.

Q. And if you divided $600,000 by the output for the Consolidated Gas Company which is 13,283,000,000 feet, it would represent, would it not, something like——

A. 4½ cents.

Q. Per thousand cubic feet?

A. Yes.

Q. Now, you testified in Philadelphia quite a number of years ago that 10 cents per thousand was a fair allowance for depreciation alone, didn't you, beyond ordinary current repairs and renewals?

A. About 10 years ago, I think.

Q. And you founded that testimony on the opinion of Mr. Vanderpool?

A. I think that related to coal gas plants, and there was accompanying it a statement that it would be less for water gas.

Q. Now, I asked before the Gas Commission, "Mr. Vanderpool was a great authority on that subject? A. Yes." Was he or wasn't he?

A. Yes.

Q. And when you testified, you accepted Mr. Vanderpool's theory at that time, did you not?

A. I did.

Q. Now, later in Boston, about two years ago, you testified, did you not, that five cents a thousand should be allowed for depreciation beyond the current expenses?

A. Later I modified it.

Q. You changed your mind late in the testimony and testified to what?

A. That the repairs and renewals and depreciation must all be treated as one item and that the more there was spent upon repairs in one year the less the depreciation, and *vice versa;* that the chief thing was to have a total of an adequate amount; that some companies took care of their plant entirely from what they called repairs.

Q. But your first impression was when you testified there,
3241 that taking the ordinary current repairs and renewals as the company progressed that five cents additional would be required for final renewals or depreciation or whatever you please to call it?

A. That's right.

Q. Last year, before the Gas Commission, you came over to New York and revised your estimate of three cents when you testified in the Consolidated case and thought that was fair for contingent and reserve fund, did you not?

A. Yes.

Q. And now this year you say it is zero cents?

A. Yes.

Q. You have reached the ground floor now?

A. Yes, I have learned from your testimony about the plant more than I knew then.

Q. You commented in Chicago a year ago on Dr. Humphreys' views on depreciation, did you not?

A. Yes.

Q. And did you make this statement in the testimony (page 1368) before the Gas Commission—I have the Chicago record here also but I am reading this from page 1368 of the printed record before the New York State Gas Commission:

"Now, the best authority that I know of in the gas world in such a matter is Alexander C. Humphreys, who is the veteran manager of the gas works and president of gas associations and now President of Stevens Institute and senior member of the firm of Humphreys & Glasgow, which builds works, and consulting engineer work here and in Europe. He installed the Consolidated in New York and Liverpool, Brussels, Glasgow, Edinburgh, Bath, Brighton, Amsterdam and Copenhagen, and from 1885 up to 1894 he was in charge of the construction and engineering for the United Gas Improvement Company, which has about sixty companies in forty cities."

3242 Do I quote you correctly?

A. I think you do.

Q. Now, in reference to this depreciation of final renewals, what ever you please to call it, with which we are dealing, did you not in Boston state in substance as follows, there is a great depreciation which comes from invention which displaces machinery which may run just as well as it did when it was built, but which the up-to-date manufacturers throw into the scrap pile when the invention gives them something better?

A. I think I said so. It certainly is so.

Q. So it is not merely the wearing out of the machinery, but it is the possible supersession by improvement that you must consider as well?

A. That is right.

Q. And in Springfield, if I am correct, you said that scrubbers, condensers, Lowe, Flannery, &c., condensers were revolutionized in twenty years?

A. Generators probably.

Q. Yes, generators—had been revolutionized in twenty years. Is that substantially correct?

A. I probably said that.

Q. And is it not the case that it is the custom in well managed companies to make an allowance for depreciation or maintenance or some account like that?

A. If you have it there I do not doubt I said it.

Q. Your answer appears to be "there are some well managed plants which temporarily ignore it but their engineers are always protesting."

A. Do you wish me to correct that now or wait till redirect?

Q. I think perhaps you had better wait until redirect unless there is something immediately relating to my question?

A. It was immediately relating to it.

Q. Very well then.

A. In stating that engineers are always protesting against
3243 it, I should say that it depends on the amount of the repair fund. I know of very large enterprises like the Pennsylvania and Lake Shore railroads that out of their repair fund do a lot of construction and I don't believe their engineers protest at all. They have no nominal depreciation fund at all in their entire accounting system and yet they improve their plant right along out of their repairs and renewals, and so when I said that engineers protest I thing it was a little too sweeping. It depends upon the amount of repair fund whether they protest or not, I think.

Q. In other words, engineers according to you do precisely what Dr. Humphreys advocates, that is to put something into extensions instead of into a sinking fund, and thereby increase the value of the plant or keep it up, offsetting any depreciation?

A. Yes, they believe in keeping it up.

Q. Now I find in the Boston testimony (page 275), if I am correct, that you stated that two per cent. on the structural value must be allowed for depreciation; is that right?

A. I may have said that. If you say I did——

Q. Does not that accord with your view?
A. At the present time do you mean?
Q. Did it accord with your view then?
A. Undoubtedly, whatever I said then I believed, and if you find it in the testimony I shall not deny that I said it.
Q. You will have an opportunity to correct it if it is not there.

Mr. MATHEWSON: I have reached a point where I shall change the line of examination a little, and if you wish to take the recess now it will be agreeable to me.

Recess to 2.30 P. M.

3244 After Recess.

EDWARD W. BEMIS resumed.

By Mr. MATHEWSON:

Q. Professor, referring to the reserve which is to be created, apart from the question of how the cost of final renewals shall be financed, the measure of the loss through depreciation is the number of years that a certain part of the plant will be employed before replacement, or the average number of years of the plant as a whole, isn't it?
A. That is the usual method of reckoning depreciation, taking the average life.
Q. When you speak of the average life being 33 years, you say, do you mean anything more than if you establish a sinking fund to take care of each individual class of items in a plant as they require replacement, aside from the ordinary current repairs and renewals, of course, the total of the various sinking funds will equal the value of the entire plant in 33 years?
A. If you take 33 years, or whatever time you take, the sinking fund at the end of the time would be sufficient to cancel the investment that had to be displaced.
Q. And I suppose that the cost of depreciation should appear as part of the cost of the product every year, and that this cost should be spread evenly over the years of the plant's life?
A. When you say evenly, that can be interpreted, I suppose, as an equivalent percentage into a sinking fund, or as President Humphreys says, an equal number of dollars, so that I hardly know how to answer your question. If you interpret the word "evenly," in the sense of an even percentage into a sinking fund, I would say yes.
3245 Q. Would you say yes if you interpret it to mean a uniform number of cents per thousand each year?
A. I think the one would probably be not far from the other, yet not necessarily, because the ratio of sales to investment varies; the tendency being for sales to increase faster than investment.
Q. Of course, the life of some parts of the plant exceeds 40 years or 33 years?
A. Oh, yes. In fact——
Q. So when you speak of an average life of 33 years or 40 years you are really using a term which is inexact in itself?

A. Yes. There is no absolute agreement as to the life of a plant and, of course, it varies in different cities.

Q. Your testimony was that 33 years is the average life of a plant, was it not, or your estimates have been based on that in your testimony heretofore?

A. Some estimates have, and some on longer life.

Q. And Dr. Humphreys used 40 years, didn't he?

A. Yes.

Q. Now, neglecting the question for the moment of how the fund shall be provided or the loss should be taken care of, that is the question of financing, the yearly loss on a 40-year life for each one hundred dollars' worth of depreciable property would be one-fortieth, or $2.50 on each $100, would it not?

A. If you do not invest it. But you don't have to invest that amount——

Q. Well, however you are to get it and wherever you are to get it, if you assume 40 years is the life of a plant it will mean $2.50 a year to make up the $100.

A. Yes, without any interest or profit.

Q. But whether it is interest or profit or not?

A. If you put it into a stocking it will take $2.50 each year to make the $100.

Q. But if you want to replace your $100 at the end of 40 years you have got to have enough money to equal $2.50 for forty
3246 years, or else you will not get your $100, whether you get it from accumulations of interest or other sources?

A. Yes.

Q. So that the $2.50 on each $100 in case of the forty-year life of a plant is something that must be dealt with in some way, and must be procured from some source.

A. Yes.

Q. And this means in substance that the yearly loss will be 2½ per cent. of the depreciable property, doesn't it?

A. If you ignore the element of time.

Q. I am taking forty years——

A. No, but if you ignore the element of time during forty years that is true, but since the loss is not felt very much until near the end of the forty years, you can take account of time as related to compounding of interest.

Q. Now let me see. You take a plant like the Consolidated Gas Company that has been in existence for seventy-five or eighty years or 100 years; is it not true that if you take a forty-year life of a plant, 2½ per cent. of the depreciable property on the average will disappear each year and have to be finally renewed or finally replaced? In other words, it is not going to wait until the end of the forty years and then all go to pieces like the "one hoss shay," is it?

A. No, but whatever the part be, whatever the life, when a part has been in existence for forty years or fifty years and has reached a certain gait, as it were, then a certain amount of renewals must be made each year.

Q. And it would make no difference, would it, if you established

a sinking fund for each class of property separately, the result would be the same?

A. I think it would make a difference in the effect on the consumer.

Q. Let us see if it would. If to take care of a plant, assuming a forty-year life, you have to get from some source $2.50 on each $100 per annum, then on the thirty-three-year life, such as you
3247 have assumed in previous testimony, you would have to get 1/33 of $100 or $3.03 per annum, would you not? Forget for the moment whether it is coming from interest or somewhere else.

A. Yes. That amount would have to be at hand, I should say.

Q. Then if it would be $2.50 on the theory of Dr. Humphreys' taking forty years, and $3.03 on yours, that would make a difference of 53 cents, which you would have to procure from some source beyond what Dr. Humphreys would have to procure under his forty-year theory, per annum, would it not?

A. If you assume that that difference of life between thirty-three years and forty years exists. I don't think in all cases it does. I think that in a company where mains do not depreciate any more than they do in either Boston or New York there would be a longer life, forty years or upwards rather than less. In some cities and with coal gas plants it might be less.

Q. But we are making an assumption, Doctor, and in this case I understood you to take thirty-three years as your average life of plant, didn't you?

A. I said I had in some cases.

Q. Didn't you in your figures here?

A. I don't remember now, but the more I have studied it, the more I think that in view of all the testimony as to the durability of mains in New York, that thirty-three years is altogether too short a life.

Q. Well, didn't you take thirty-three years in your estimate before the Gas Commission?

A. I don't remember.

Q. Well, don't you? Just think a moment.

A. No, I have not had time to study just what I took.

Q. That was less than a year ago.

A. But if you say I took it, I will accept it.

Q. No, I ask you if you remember?

A. I don't remember.

3248 Q. You did not take over forty years, you are pretty sure about that?

A. Yes. I did not.

Q. And if the average life of a plant was one year, the loss from depreciation would be, of course, 100 per cent. each year and you would have to add that all in to the cost of gas?

A. Yes.

Q. It is simply a question of time?

A. Yes.

Q. Now, taking your sinking fund upon the theory you have advanced, you say it would be $1.05 for the first year?

A. On a forty-year life I believe that is it.

Q. And so the second year it would be a certain sum, and in order to reach the entire value of the plant in forty years, you would have to leave that $1.05 free for the entire forty years, would you not and accumulate at interest?

A. Yes. I think it was on a four-per-cent. basis.

Q. So that your theory proceeds upon the leaving of the money in a sinking fund and letting it accumulate, instead of using it.

A. Yes.

Q. Now Dr. Humphreys proposes on the other hand to use $2.50, we will say, per year on each $100, and charge that in operating expense, but that goes into renewals and extensions. Now if you don't make the renewals and extensions from that source, you have got to borrow money to make them, haven't you?

A. No——

Q. Or raise capital in some other way?

A. No. As I understand——

Q. Haven't you?

A. As I understand Dr. Humphreys' theory, the first few years' renewals would not take all of this $2.50 and it would be put into the plant in the shape of extensions or new construction and would be drawn on later for meeting the depreciation when it appears. Now, whether it is thus put into extensions—it can be put into extensions that way as a resource earning a return or it can be
3249 put into a sinking fund outside of the gas investment.

Q. I think you misunderstood Dr. Humphreys. If I understand his theory correctly, it provides for putting this $2.50 per $100 we will say, assuming the amount annually back into the property?

A. Yes.

Q. Thereby keeping the investment good by additions or extensions which will take the place of plant which is losing its life?

A. Yes, but that does not differ from my view of it.

Q. If you put your money into a sinking fund instead of using it in that way, you have got to get capital from some source to make your extensions and additions, haven't you?

A. Yes, for your extensions you have.

Q. Then you have to pay a return on that property?

A. Yes.

Q. And that must come out of the consumers of gas?

A. Yes.

Q. So that while you have your sinking fund accumulating at four per cent., you are at the same time borrowing money to make these extensions in your case and paying five or six or eight or even ten per cent. for it, if you issue it as capital, are you not?

A. Of course I don't think you have to pay any eight or ten per cent.

Q. Well, you have to pay at least five per cent?

A. Yes.

Q. So that the interest that the consumer has to pay more than offsets the interest that he gets or that the company gets on its sinking fund?

A. I think the matter becomes more burdensome to the consumer during the first few years——

Q. That is your statement, but I am trying to get down to a point where you will show how that is.

A. As I recall it, I can produce it next time, President
3250 Humphreys said so himself in an article in "The Progressive Age" within a year.

Q. He will testify for himself later perhaps, but I am now getting your testimony. You would produce a fund equal, if you took a 40-year life, to $2.50 per annum for forty years to make up your $100, and that would be produced either by taking the fund out of the earnings or by accumulating interest upon it after it was taken out, a smaller sum being put into a sinking fund. Now, Dr. Humphreys gets precisely the same sum by taking $2.50 for forty years. You cannot make something out of nothing?

A. Certainly. But in the one case you only take $1.05 a year out of the business, putting it into a sinking fund.

Q. But on the other hand you have to have capital, you have to get in new capital to make the extensions and additions which would have been made by the 2.50, if that had been put back into the business, so that you gain no advantage. Don't you see so?

A. Well, we are facing a concrete proposition in which the company during its past one hundred years has not accumulated any fund for either purpose, so we are as it were beginning the thing.

Q. Oh, we have got a plant here that is of age, Doctor, and we must take it as it is, as you have said in some cases.

A. Yes, but you would have to, I should think on that principle, have to divide your present capital or structural value into such portion of it as a legitimate sinking fund on President Humphreys' theory would have amounted to at this time, if it had begun to be invested forty years ago.

Q. Did not Dr. Humphreys in his article to which you refer, illustrating the effect of a sinking fund, say that the final year you would have to put in $4.85, or put in $1.05 the first in order to produce the fund?

3251 A. Yes, but you would not if you put it into a sinking fund, you would only use $1.05 each year.

Q. And your figure is on the basis that that you produce it at the end of forty years?

A. Yes, at four per cent.

Q. As a matter of fact, so long as a plant does not go to pieces all at once and fall flat, at the end of forty years, you have got to put money into your final renewal, supersession, removal to Astoria, or whatever else it is that requires some supersession from time to time as occasion requires, haven't you?

A. Yes.

Q. And if you used your sinking fund for that purpose you would not have it running for forty years, would you?

A. No, although other portions of it would run for more than forty years, so that is the theory, that the forty years is an average. Some of it would be withdrawn in twenty years and even ten years and some would last eighty years.

Q. But if you wanted to withdraw in twenty years you would not have that part running for forty years and the accumulation would not occur?

A. But I think the whole thing mathematically would work out the same in the end, if you assume that forty years is the average.

Q. Would not the same result follow more cheaply if instead of having an accumulation at four per cent. for twenty years for a part of your plant and borrowing money at five or six per cent. to add to your plant, you had added to your plant by putting in a certain amount each year and made those extensions and required no extra capital therefore to produce them?

A. It may be quite as good policy for a company to finance that way, but when you come to reckon as part of operating costs, you can get at it much more scientifically on a sinking fund basis.

3252 But if they prefer to substitute another plan in their own private financing which works out just the same at the end of forty years, there is no objection to it; but in the estimate that we are making in operating cost the scientific theory, I believe, is the sinking fund.

Q. I am proceeding on the theory of advantage to the consumer as well as the scientific theory, and if the consumer pays a smaller amount into a sinking fund but pays a larger amount for return upon capital which has been required for extensions because the money was put into a sinking fund, then the consumer is not benefited, is he, if they offset?

A. The total profits of the company may be greater by investing the sinking fund in the property rather than in an outside sinking fund investment, and so far as the consumer shares in the profits of the company he would benefit too under that supposition, but it is very much more fair and more correct, I think, in approaching a company that has no sinking fund, and no accumulated depreciation fund, to apply the sinking fund, and then admit that the company can apply any other actual method of financing they please.

Q. How do they do it in Massachusettts in connecting with the Municipal Act to which you have just called attention? Is there any provision in that Act whatsoever for a sinking fund?

A. I understood there was.

Q. Will you read it and see if it does not provide expressly that they shall be put into extensions or something of that sort (handing paper)?

A. I will read, shall I?

Q. No. I merely asked you a question. I can't think it is necessary to read it yet. The question was whether there was any provision for a sinking fund there to be set aside as such?

A. It appears to be in this way. The law states as among

3253 the expenses of operating a municipal plant this: "The requirements of the sinking fund or debt incurred for the plant." I interpret that to mean that in borrowing for the plant the town or city very likely has to agree to a sinking fund provision or there may be a State law as to all municipal bonds.

Q. I don't think it is worth while to speculate as to what there may be. Look at the Act.

A. Well, whatever law there may be regarding the sinking fund must be complied with. That is all that law says. It must comply with the requirements.

Q. That refers to a sinking fund to retire bonds, doesn't it?

A. Yes, and it must be complied with.

Q. That is not a sinking fund for depreciation purposes in the ordinary sense or final renewals?

A. Oh, no.

Q. Won't you read along down further in the Act and see if it does not provide that the depreciation fund may be used only for extensions, reconstruction, enlargements and additions, thus maintaining the investment?

Mr. BURR: In excess of ordinary repairs?

Mr. MATHEWSON: Of course, in excess of ordinary repairs. I am now talking about this final renewal fund.

A. It provides that the three per cent. on the property aside from land shall be put into a depreciation fund and shall be used for renewals and reconstruction.

Q. Extensions, enlargements and additions?

A. Yes, and "the surplus, if any, of said annual allowance for depreciation after making the above payments, shall be kept as a separate fund and used for renewals other than ordinary repairs, extensions, reconstructions, enlargements and additions in succeed-
3254 ing years." Now when I read that I was uncertain, and I still am uncertain from the punctuation just what it means. I noticed that a few days ago. For example, I don't know whether the expression, "other than ordinary repairs" is to be followed by the implication "other than ordinary extensions," and "other than ordinary reconstruction," or whether extensions is to be included on a parity with renewals; it is not clear grammatically.

Q. You have made a study of Massachusetts cities I judge, from your testimony, and you seem to have access to the files of the Massachusetts Gas Commission. Don't you know that it is the practice and custom of the Massachusetts Gas Commission to require the investment of these depreciation funds in additions, enlargements, etc., to keep the investment good and that they do not consent to the establishment of a sinking fund to accumulate for a long term of years, such as you have advocated.

A. Up to a few months——

Q. I merely asked that question. Won't you answer it, please?

A. I can only answer it by a statement. Absolutely, I can only answer it by a statement.

Q. I ask you whether you don't know that to be their practice or custom. Can't you say whether you do or not?

A. It has not been their practice and custom.

Q. It has not?

A. There has been no practice in the matter.

Q. You think so?

A. Yes, I do. The law on depreciation in Massachusetts has been only a dead letter. It has been only a bookkeeping charge. The law until that was passed did not require a cent to be set aside for depreciation; it only required the towns owning their plants to put the bookkeeping allowance for it in their reports.

Q. You put it in this way. Don't you know that the towns
3255 themselves would not consent to the establishment of a sinking fund of the character that you advocate, and therefore the terms of the present law and the treatment of the accounts by the Commission?

A. I don't think there has been a sinking fund except for the debt.

Q. But I was going to ask you, and I will now ask you, if you will name a single gas company which you know maintains an accumulating sinking fund of the character which you have advocated instead of putting its money into enlargements and additions for the purpose of keeping the investment good in that manner?

A. No, I don't know of any.

Q. Now in your testimony in Boston some time ago, you were testifying in reference to the Brookline plant and claiming that the Brookline plant was of less value than was claimed, because it had not charged a sufficient sum to its depreciation, repairs, renewals, &c., were you not?

A. Yes.

Q. In that connection do you remember that you cited some English cities to sustain yourself?

A. Yes.

Q. And did you not cite nine municipally owned plants, Bradford, Boulton, Birmingham, Carlysle, Leicester, Manchester, Nottingham, Oldham and Salford, to show that the funds there for repairs, renewals and depreciation were equal to 12.66 cents.

A. While I don't remember the exact figures, that impresses me as substantially what I said.

Q. It occurs at page 419 of your Boston testimony. Do you remember saying that to this should be added one-sixth for wages because wages were higher in the United States, which would produce 14.7 cents?

A. Yes, I think I said that.

Q. And when you were asked why not add more than one-sixth, if the difference is 25 to 30 per cent. (meaning in labor) your
3256 answer was "Because all distribution is not labor."

A. I think that was substantially what I said.

Q. Now the 10.89 cents which you have allowed for the Consolidated Gas Company and saying that you allow nothing beyond that, is nearly 4 cents less than the 14.7 which you showed there, isn't it?

A. Yes.

Q. Now let us look at your Chicago estimates made recently, as they appear in the pamphlet to which attention has been so often called. Did you not there on page 43 allow 10.16 cents for repairs and renewals and supplement that with an additional three cents "in order to be surely on the conservative side?"

A. Yes.

Q. That makes 13.16 cents?
A. Yes.
Q. And did you not say at page 41 "The New York Consolidated Gas Company produces about one-quarter of the gas which it makes in the form of coal gas and therefore requires more extensive repairs than the Chicago Company"?
A. Yes. Where was that on page 41? I want to look at it.
Q. Page 41, second column.
A. That is right. I have found it.
Q. And do you remember the testimony of Mr. Cowdery, of the Laclede Gas Company in St. Louis, that he had known as much as 15 cents variation in the cost in a single year of gas within the vicinity?
A. He used some figure like that. I don't remember exactly. In the coal famine, which I thought he referred to when I heard him say it, there was of course quite a change in the price of coal and also in the demand for gas.
Q. And do you remember his statement which appears on page 22 that with the prices that gas companies are now making they must figure further into the future and on a sufficient basis, after stating that he thought ten cents should be allowed?
A. I have not found in all my studies of the Massachusetts
3257 companies for twenty years that on the average for any year there was any such change as 15 cents.
Q. Well, I will read from Mr. Cowdery, on page 22 of this pamphlet, and see if this impresses you as fair:

Mr. BURR: This is the report of the Chicago Council you are reading?
Mr. MATHEWSON: Yes, his statement contained in that report.

"Q. I make the stat-ment that repairs and renewals as they should be made every year with a company conducting its business properly would require in the neighborhood of 10 cents per thousand and unless some extraordinary allowance were made for extraordinary things that would happen, some other means must be found by the company to raise the money for such a purpose. Mr. Bemis cannot possibly show this to be different if he states conditions as they exist in this country."

Is that a fair statement?
A. Of what he says?
Q. Yes. And do you agree with that?
A. No. I agree that he said it.
Q. You don't accept his estimate of 10 cents?
A. No, not as applied to New York. I did think it would apply to New York but I do not think so any more.
Q. How recently did you change your mind on that subject?
A. On studying the testimony you have put in as to the increase in valuation of your property since 1884 over and above the amount you have spent for construction.
Q. We will come to that in a few moments, and I think we can

satisfy even you on that subject; if not, we can the Master. Referring to the——

3258 A. I may say that I have also learned more about the English companies since I was over there this summer as to my testimony about them. I find they have been improving their plants out of their repair and renewal fund, so they have been furnishing part of their capital that way, the municipal plants I mean, and it is also true of Sheffield and some of the other private companies.

Q. And don't you remember in Syracuse your statement that you were aware of an instance in which the coal bill of a gas company no larger than the Syracuse company had varied $50,000 from one year to another?

A. I was asked, I think, some such question on cross-examination. I don't remember how I replied and I certainly do not remember what company I had in mind.

Q. It appears at page 2979 of the Syracuse Minutes, that you were asked that question and that you said "Not as much as that save in the big strike four years ago. I think it did then." Now what company did you have in mind at that time?

A. Well, I don't think I had in mind any company, but knowing the fluctuations in coal, I took it for granted that that might have occurred in a very big plant.

Q. Well, no larger than the Syracuse plant?

A. Oh, I think it would not have occurred in a plant like that.

Q. What is that?

A. I think it would have been a larger plant than that.

Q. The question is "Q. Have you ever known a coal bill to vary from one year to another in a company no larger than this at least in the sum of $50,000?"

A. Then if I said that it certainly was a mistake because I certainly don't know of any such plant, but I must have had in mind that there were plants in which it would vary, without referring to a plant of that size.

3259 Q. If you did refer to a plant of that size, as the question would indicate, and the sales of that company were only 350,000,000 feet a year, that would mean a difference of something like thirteen or fourteen cents per thousand feet of sales for the coal bills?

A. Yes, but I don't know, as a matter of fact, any such plant.

Q. And you wish to modify that answer in that respect?

A. Yes.

Q. Now, if you should find a company charging twelve per cent. to depreciation, taking that out and putting it into plant, you would think that excessive, wouldn't you?

A. Twelve cents or twelve per cent.?

Q. Twelve per cent.

A. Yes, I should think it was.

Q. You would think they were building up their plant and enlarging it without letting it appear in construction, wouldn't you?

A. Yes.

Q. And doing so very largely and very liberally?
A. Yes.
Q. Would the same be true if you took ten per cent.?
A. Yes.
Q. And anything down to the two per cent. which you mentioned in Boston as a fair figure?
A. And even that two per cent. depends upon the amount they put into repairs.
Q. Yes, but assuming that they put what you may call the normal amount in repairs, your answer would be to that yes, would it?
A. Unless there were exceptional conditions.
Q. Yes, I mean the average and ordinary conditions, of course. Now, I think you have stated, have you not, that there is no definite proportion in the gas business which you have been able to figure out between the sales and operating expense?
A. Yes, I have said that.
3260 Q. Now, let us take this 10.89 cents per thousand, to which you have not added the three cents this time, but which you did before the Gas Commission a year ago, and see whether your theory is correct on which you have excluded the three cents now. If a piece of apparatus is replaced, it is proper, is it not, to charge to depreciation to reduce the capital of the company the amount which that piece of apparatus cost?
A. Not necessarily.
Q. Well, is it not proper to do so, is it not the usual custom when a piece of apparatus is displaced, to charge on the one side to depreciation the cost to the company, as it stands on its books, on that piece of apparatus?
A. Not if you are going to put into capital account more than you had before, it is not proper, that is, if you are going to put any of that discarded into capital.
Q. We will assume you are not, but that it is something which is absolutely abandoned.
A. Let me put it this way——
Q. An abandoned main that is absolutely useless and will never be used.
A. If you have a main that cost $1,000 and you discard it and put in a larger and better main costing $3,000, it is all right to charge off the one thousand dollars for depreciation if you do not add to the value of your property more than $2,000. But if you come in and ask the right to earn dividends on more than two thousand dollars, then to that extent you have charged off too much.
Q. Let us see. If we replace a piece of apparatus, a main, we will say, that cost $1,000, and put in its place a larger main that cost $3,000, is it not quite proper to charge $1,000 to depreciation and charge the $3,000 to construction, the net result being to increase the $2,000 in the capital account?
A. It would seem so, unless it appears after awhile that
3261 you have increased your capital account on that ground more than $2,000.
Q. We are assuming that we do things in a businesslike way and

that the books represent the facts. That being so, that would be quite proper, would it not?

A. Yes, under those circumstances.

Q. Now, the piece of apparatus, in other words, which is removed, would be charged off at its cost, of course, and the new apparatus would be put into capital account to increase capital account at its cost and any difference would be added to capital account.

A. That is right.

Q. Have you not heard Mr. Carter testify, or haven't you read his testimony that that is exactly the method that the Consolidated Gas Company has pursued?

A. I could not understand his testimony as to services, I think it was, as meaning precisely that.

Q. Well, you are referring now to an affidavit, and I will take that up later. But I am referring to his testimony which has been given in this case and also before the Gas Commission.

A. I did see testimony to that effect but when I read the valuations here I saw that it was wrong.

Q. I don't think you did see it was wrong, because the testimony was absolutely correct, professor.

A. Or the valuations were wrong, I don't know which.

Q. I don't think either were wrong. We will see about that in a minute. If a main cost the company a thousand dollars and by reason of the fall in pipe it replaced that pipe for $800 it would still charge $1,000 to depreciation, would it not, and only $800 to construction, and its capital account would be reduced by $200?

A. Renewals hardly ever take that form. That is, while prices fall renewals are generally of larger mains and services,

3262 Q. That may be so, but I am assuming for simplicity that they were of the same size?

A. For that year's operations it would not be true.

Q. Assuming that to be the case, then the capital account would be reduced by $200, wouldn't it, by proper bookkeeping?

A. I should say so, with that supposition.

Q. Now, let us take a ten-inch main which cost a company at the rate of $60 a ton for pipe, which is inside the figure that Professor Marks took for pipe at the same times?

A. That was not the basis of Rowland's value in 1884.

Q. No, no, I understand that. That is another proposition. Supposing that it is desired to replace a ten-inch pipe by a twelve-inch pipe and that by reason of the fall in pipe the twelve inch for the same number of feet cost less now than the original cost of the ten-inch pipe?

A. Yes.

Q. You then would have a reduction in your capital account, would you not?

A. Yes.

Q. And at the same time you would have a better pipe, larger pipe, and a better plant, so far as that goes?

A. Yes.

Q. Suppose that you take services and assume that the company

finds it possible to replace an old service which cost it a certain sum with a service of twice that capacity, at exactly the price that the old service cost, then there would be no increase in the capital account at all, would there?

A. No.

Q. Still you would have a new service of double the capacity of the old service?

A. Certainly.

Q. So if those results followed to the Consolidated Gas Company and produced the result which Mr. Carter testified to, and the Company at all times followed its approved system of bookkeeping, of charging off against property the cost of what it has replaced and charging to increased property the cost of what it has ac-

3263 quired to take its place, no fault could be found, could it?

A. There would be no fault with that part of it. There might be a fault with the valuation that followed it.

Q. We are not dealing with the valuation that followed it. We are dealing——

A. Well, you want to judge one by the other.

Q. Because what you dealt with on Mr. Carter's affidavit as to services was the book value and what they stood on the books, not the present valuation at all. You understand that, don't you?

A. Not if I understood your question. I dealt with Rowland's value as a structural value in 1884, and the present value as a structural valuation to-day and I understood that neither one was a book value but both were structural values based on an inventory.

Q. There is where you have made your mistake, because if you read Mr. Carter's affidavit again you will ascertain that Mr. Carter was dealing with the book value, showing how much the book value had been increased, and was not dealing with the cost of reproduction of those services to-day at all. That being so——

A. Well, admitting that, that would not apply as to what I took as to plants and holders by Mayer and certain other things I took. And as to the mains and services and meters, I understood the testimony to be that the true value was at least equal to the book value, and I understood Mr. Addicks to say that he thought it could not be duplicated without more than that book value.

Q. I am dealing now simply with the book value. Assuming I am dealing with the book value and that it charges against capital, and charges in favor of capital have been made in the approved manner to which we have referred, there would be no criticism, no matter what the result might be as to small or large increase, would there?

A. No.

Q. Then, if that be the case and if my supposition is right you still then would allow this three cents for the final renewal which

3264 you have excluded on the other theory.

A. Yes, because the total increase in valuation of the property now over 1884 is over twice the increase in book value.

Q. You are speaking now, Professor, of the cost of reproduction. I am not dealing with that at all because Mr. Carter's affidavit,

where he showed an increase in capital account chargeable to services of only $177,000 in twenty-one years, dealt solely with the present book value of the services and not with the cost of reproduction. You understand that, don't you?

A. Well, on that particular point——

Q. Don't you understand that?

A. I don't remember as to—yes, I got $177,000, but I find somewhere in the testimony of your witness they put a valuation on those services to-day of $1,994,034, an increase of $959,793 over the valuation that Rowland put on them.

Q. Oh no, not at all. You found that the cost of reproduction to-day was $1,994,000?

A. Yes; and that the book value of these services was about $1,212,000.

Q. Well, Mr. Carter used the $1,212,000 in reaching his $177,000 and not the larger sum.

A. Yes, that is right.

Q. Then if in the books of the Company so kept renewals and replacements were charged in the manner we have discussed here; then there would be no inflation of property at the expense of the consumer of gas and you would be compelled to allow the three cents beyond the 10.89 on that supposition, wouldn't you?

A. If it should appear—I take services now alone which are not typical of the whole situation, but taking services now, which we are speaking of, if it should appear that the Company made a claim on behalf of the increase of cost in duplication and claimed they were entitled to some consideration on that account, in charging for
3265 gas, then it would certainly be right to take into account that the repairs and renewals were too heavy on the services.

Q. But, taking the book values of the property and assuming that that 10.89 cents has simply taken charge of the current repairs and renewals and that no part of it has gone in to swell property accounts, but that the accounts in relation to replacements and renewals have been conducted in the approved manner that we have suggested, then you would need a final renewal allowance beyond the 10.89 cents, the same as you allowed before the Commission?

A. Not if it should appear that the property as a whole had greatly increased in value, aside from land. Now I do not allow for increased value of land or mains on account of paving, but if it should appear that all the other property had increased in value more than that book value and you made any claim on that account than to the extent to which you proved your claim, to that extent would 10.89 be excessive.

Q. But I understood you to say that you based your conclusion on some assumption that part of this 10.89 which has been expended for current repairs and renewals had gone to swell the plant account?

A. It may have done so.

Q. Well assume that it did not, as Mr. Carter testified it did not, then that would modify your conclusions?

A. Not if the property has really increased in value.

Q. Then the point is if the property has increased in value, that is

to say the present cost of reproduction is greater than the cost to the Company, that is what controls you and not the putting of any part of this 10.89 cents into additional plants, is it?

A. Well, I exclude the land and the mains, but so far as relates to the rest of the property I find, excluding land and mains, that your witnesses have reported the property has increased in
3266 value in excess of the book repairs and renewals by $10,671,-000. Now, if there is any claim made that any portion of that should go into capital account, then to that extent is the 10.89 excessive.

Q. You understand the testimony is that the cost of reproduction of these plants is a certain figure?

A. I have taken your witnesses on that, for what they have testified.

Q. Just a moment. I want to find what you understand. You understand from the testimony that the cost of the reproduction of this plant is a certain figure?

A. According to your witnesses, yes. I understand it so.

Q. That land we will assume, which cost the company $11,-000,000, is now worth fifteen and one-half million dollars. Now, no part of that increase in land has come out of that 10.89 cents that we have spent for ordinary renewals, you understand that?

A. I do.

Q. And that increase in the value of the land has been a natural and normal increase?

A. Certainly.

Q. Now, supposing you take mains, the fact that the mains to-day would require $12,600,000 to replace them on account of the expensive pavements which have been put down, as against the cost of $7,852,000, is not due to any part of that 10.89 cents going into mains to increase their values; you understand that too, don't you?

A. Yes.

Q. So that the increase in the value of the property is not in any way due to the use of any part of that 10.89 cents for anything else than current repairs and renewals; you understand that, do you not?

A. No, I have my grave doubts about it.

Q. Well, assuming that to be so, as Mr. Carter has testified, and waiving your doubt for a moment, then you would have to add something to the 10.89 cents for the final renewal of plant on
3267 expiration of life, upon the theory you have enunciated, wouldn't you?

A. No.

Q. Simply because these items of plant, like land and mains and services have increased by what we may call normal processes, and without taking any part of the increase out of the consumers of gas you would say we are not entitled to any reserve fund to take care of final renewals, would you?

A. No, if you claim profit on that appreciation.

Q. You mean by that if we claim that we are entitled to a return?

A. Yes.

Q. On the present value of our property we then are not entitled

to any reserve fund to take care of final renewal of our property, is that it?

A. Well, so far as your theory of appreciation balances with the theory of depreciation. You cannot work the one without the other.

Q. Well, I don't know whether we can or not. We are going to rest on the law, so far as we are able to ascertain it.

Mr. BURR: Well, that is the question.

A. Now, so far as depreciation has not balanced, why, of course, we must take it into account.

Q. Supposing the appreciation of that property had a good deal more than counterbalanced the entire 10.89 cents that we spent for ordinary repairs and renewals, then we are in a dreadful state, aren't we? What would happen then?

A. Why, I should say if you claimed there was profit——

Q. In that case we ought — divide up part of our property among the consumers of gas, ought we not, on your theory, because it had increased beyond the amount of 10.89?

A. That is not all your expense of gas production. It would sweep out the entire repair and renewal accounts. Certainly
3268 you cannot work a depreciation theory and an appreciation theory unless you work them together.

Q. Now, let me call your attention to another point. When we are figuring upon the amount required for final renewal of these plants in forty years, or any other time, you have got to take the plant as it now is and figure the reproduction of this plant, haven't you?

A. I deny that as to land or mains.

Q. Well, if we have got to reproduce mains at the end of forty years we have got to reproduce mains under this present expensive pavement? You cannot suppose there will be any poorer pavement at that time than there is now; isn't that so?

A. Yes, but you do not replace them in forty years.

Q. And we have got to figure our sinking fund or our depreciation fund, whichever way you treat it, upon a basis which will reproduce the property as it now exists, haven't we? Mains, services and other things, in computing its life; is not that so?

A. The land does not have to be replaced.

Mr. BURR: The testimony is a main does not die. You may have to put down larger mains.

Mr. MATHEWSON: That is a replacement which may be a final renewal.

Q. (Question repeated:)

A. It is not true as to land, and whether it is true as to mains I should have to consider a little more. It would be true as to everything else.

Q. But you could not replace your mains upon the expiration of their life, whether it is ten years or one hundred years from now without replacing those mains under pavement just as expensive as there now is, so far as you can see.

A. When that replacement occurs under this more expensive pavement, then by the theory that we both agreed on a little
3269 while ago the difference between that replacement and the original cost of the main can then be charged into capital account, and not until then.

Q. But we must provide for the final death of the plant by the sinking fund which you have just referred to, and I want to know——

A. You will then——

Q. Just a minute. I want to know what the value of the property is which we have got to provide for or for the replacement of; and isn't it the property as it is to-day and not as it was fifty years ago?

A. Not as to mains, services and land; but as to everything else I agree.

Q. How are you going to replace the mains except by going under the pavement as we find it?

A. Then you can charge it to capital account.

Q. Do you mean to say that you charge that to capital account, the replacement of the mains?

A. Less the original cost.

Q. Has not your whole theory been that we are entitled to replace the plant at the expiration of its life and to charge something against the consumer of gas to produce a fund for that purpose?

A. As to the original cost of the mains, that is my theory, but I say, just as we said a little while ago, if the main cost $3,000 that took the place of a main costing $1,000, the $2,000 difference would be charged into capital account; the $1,000 would be charged off. Now, suppose that $3,000 is not due to the extent of more than $1,500 to a difference in the cost of the pipe; suppose the other $1,500 is due to the difficulties of paving which did not exist when the original pipe was laid; it would still remain true that the new main cost $3,000 and the old one $1,000, and the difference between the two, or $2,000, I would charge to capital account.

Q. In other words, we could wipe out our entire capital,
3270 and be obliged to, and have nothing left if there were expensive pavement enough so that it cost a great deal to get under it, couldn't we, under your theory?

A. No.

Q. Why not? If you have got to charge to capital account any replacement of that kind instead of charging it against the consumers of gas by the establishment of a depreciation fund, you concededly would wipe out your entire capital by what might be charged to it in that way, if pavement were expensive enough?

A. Oh, no.

Q. Well you would cut a very large hole in it, wouldn't you?

A. No.

Q. If you had to replace the system of mains in New York City to-day, we will say which cost $7,852,000, and we had to pay $12,600,000 for it, would you say that we charge $5,000,000 against our capital account and impair our capital to that amount?

A. I should say this, that if by virtue of changes in conditions of New York——

Q. Won't you answer my question first?

A. You would be entitled to charge for cost and return on that increase of investment made necessary by the conditions in the City, and I still say that as to mains that when you have to renew them by virtue of paving you then have to put in a bigger capital account, and you will be justified in earning a return on that capital.

Q. In other words we would be entitled to increase our capital by $5,000,000?

A. Yes, for your expenditures.

Q. And then against consumers of precisely the same amount of gas we would have a right to charge in that case enough to produce a return upon $5,000,000 more of capital than to-day?

A. Certainly.

Mr. BURR: It does not appear it is precisely the same amount of gas.

5271 The WITNESS: But that would never occur under those conditions.

Q. But it will occur in degree from time to time and you must know that we are replacing mains constantly under these pavements?

A. As I understand the theory, those charges now go into book value. I understand to-day if you tear out a main and put in another main, having to dig through new pavement for the purpose, and if the entire cost is $3,000 for the job, no matter how much is on account of the new paving, that you charge the entire $3,000 to the book value.

Q. But our depreciation fund of three cents which you allowed last year was to take care not of these ordinary current repairs and renewals but for extraordinary life such as you stated, such as the removal to Astoria, which leaves our plants here in good condition, many of them—all of them we say—you say many of them—and which is not due at all to the wearing out of the plants; and we have got to determine, have we not, whenever we establish a final renewal fund some basis upon which that fund may be computed, and the question I am asking you is, isn't it the present value of the property that has to be replaced, excluding land, if you please for your purposes?

A. I say, no. Excluding land and mains and services I say yes.

Q. As far as manufacturing plant and holders are concerned, it all applies, so far as mains and services, it does not?

A. It does as to the pipe. But I am talking as far as the paving is concerned, as to mains and services.

Q. And we have got to charge that to additional capital if it ever becomes necessary to replace?

A. Yes; and that is what you are doing now, as I understand your book value of account.

Q. I don't know whether we do or not but I am getting
5272 your views on it. Now, you have referred to Boston, which is obliged to maintain 16 candle-power against our 22. What would be the difference in the cost of six candles?

A. Some would say that it was a gallon and a fifth of oil. Some would say it was only a gallon.

Q. Well, a gallon and a fifth would mean about five cents, wouldn't it?

A. Yes.

Q. For the difference in the candle-power?

A. With oil at four cents.

Q. Well, you are referring to oil?

A. With oil at four. It would be 4.8 cents, of course.

Q. Yes, it would be about five cents. How did you take pains to find whether any city in Massachusetts paid as high as four cents for the oil?

A. I think I have obtained figures, tried to, of all the large cities of the State.

Q. You found some of them paid at least four cents for oil, didn't you?

A. I think one or two did, but I am not sure. I can tell if you wish.

Q. I was wondering whether there were not some that paid more than Lynn?

A. Yes. I will say the average of all of them is much lower than your price.

Q. You know the average of all the companies in New York is much higher than that, don't you?

A. I don't recall any but the Mutual which pays more.

Q. Didn't you see the statement of Professor Marks as to the average of certain oil in cities which he cited?

A. Yes. I thought you meant New York City.

Q. Don't you recall in the cross-examination he was asked as to the cities he left out and that the average there was over five cents?

A. Yes, I remember that testimony.

Q. Isn't it your information that the prices paid in New York City by the Consolidated is not in excess of the average paid
3273 by the cities in New York State?

A. So far as that testimony shows it. I don't think that it is very exhaustive testimony.

Q. Oh, no, but it was derived from this Brown's Directory on which you place such weight.

A. I haven't quoted Brown's Directory for oil.

Q. No, but you have on other things. Let me quote it on a few.

A. On the miles of main in the Ogden Company in Chicago I quoted Brown's Directory or started to.

Q. You notice that Doctor Marks quoted it constantly?

A. He quoted it on oil.

Q. And now let me ask a further question about Boston. Don't you know that the Boston Company procures considerably more than half its gas from the New England Coal & Coke Company, which is a coke company?

A. Yes, I read the figures. I think it is about half.

Q. And this New England Coal & Coke Company is not a distributing gas company at all, is it?

A. No.

Q. Just a manufacturing company?

A. That is right.

Q. Its business is manufacturing coke and it has this gas as a residual?

A. That is right.

Q. Now, in a coke company of that kind, a ton of coal produces in round numbers say 10,000 cubic feet, doesn't it, speaking roughly?

A. No. In the coke oven plant it produces about 4,000 feet. That is of a proper quality for sale; but in a coal gas plant you are right.

Q. In the New England Coal & Coke Company do they not produce about 10,000 feet of gas with a ton of coal?

A. Not commercial gas for sale.

Q. I am not talking about commercial gas for sale. I say gas—10,000 feet per ton of coal. Is that a round figure?

A. I think not. 4,000 feet is the usual allowance of gas at coke oven plants.

3274 Q. Didn't you testify before the Gas Commision in response to my questions that the New England Coal & Coke Company produced roughly 10,000 feet of gas per ton of coal, and that 7,000 cubic feet of this was used to coke more coal, leaving about 3,000 cubic feet to go for illuminating purposes?

A. I may have said that. I do not recall exactly.

Q. You certainly did, or else I am much mistaken. Was that an error if you did state it?

A. I don't know how much they used for heating their retorts. All I know is the amount they sold.

Mr. BURR: Have you a reference to the testimony?

Mr. MATHEWSON: No.

The WITNESS: I don't know the amount of gas they produced. I know the amount which is commercially saleable, which is 3,000 to 4,000 feet per ton of coal.

Q. When you coke a ton of gas coal, is it not the fact that in round numbers you produce about 10,000 feet of gas?

A. Yes.

Q. And if this New England Coal & Coke Company delivers 4,000 feet that would indicate that they had used about 6,000 feet for their own purposes of coking more coal, wouldn't it?

A. Yes, but when I say that amount of gas, 10,000 per ton of coal, I refer to the commercial coal gas process. I am not sure just how much gas they do get out of the coke ovens because it has never been a matter of report to any commission; it has never been a matter of investigation so far as I have been able to trace it. It is quite likely true that they get 10,000 feet. It is not a matter I am very positive about. They refused to let anybody go through their plant in Everett.

3275 Q. You say you have been a statistician and studied the gas business and other things in the City of New York and you know that a ton of gas coal produces about 10,000 feet of gas, do you not?

A. It does in commercial coal gas; perhaps 10,000 to 11,000.

Q. Have you any idea less gas is produced in coking their coal at the New England Coal & Coke Company?

A. I don't know.

Q. You don't know that there is any difference, do you?

A. No.

Q. And do you know that about 4,000 feet of the gas that they produce is delivered commercially to the City of Boston or the companies they are operating?

A. And I do know that they could not deliver 10,000 feet of ordinary commercial coal gas.

Q. No, because they have to use part of the gas; they use it to coke more coal and to keep their own business going.

A. I understood they did not produce of commercial quality, 10,000 feet in coke oven plants, but maybe 10,000 feet of some kind of gas.

Q. Do you know at what figure they are able to deliver that gas to the Boston companies?

A. I know what price they do deliver it at.

Q. Well, what is it? I think you stated before the Gas Commission that it was fifteen cents unpurified, or something of that sort, was that right?

A. I have here the figures for the year just closed.

Q. Where did you get those?

A. From this copy of schedule just made to the Massachusetts Gas Commission by the Consolidated Gas Company of Boston, in which it tells how much gas it made, how much it bought, how much it paid for it, and so on. Now, they bought 2,262,654,700 feet.

Q. That is considerably more than one-half, isn't it, of their total output?

A. Their total output? It is. Their total output is
3276 3,988,188,700; so it is 55 per cent.

Q. That includes about 500,000,000 cubic feet sold to other companies?

A. They buy it first and then sell it afterwards.

Q. But the 3,988,188,700 include about 500,000,000 sold to other companies?

A. It includes 432,040,070 feet sold to other companies.

By Mr. BURR:

Q. You mean they buy it from other companies and sell it to other companies?

A. Yes. They do not sell as much as they buy, but sell about one-fifth of what they buy.

By Mr. MATHEWSON:

Q. What do you find they paid for that New England Coal & Coke Company gas?

A. 23.01 cents per thousand.

Q. That is the total cost?

A. Yes.

Q. That was 19 candle power, as you say—about that?

A. I did not say it was that candle power. I do not think it is. I said that the mixture of what they bought and what they sold had an average test according to the State tester of 19.37, but I did not say that what they bought was that. It is not. It is not over 15.

Q. How do you know it is not?

A. Because the testimony that came out in connection with the gas hearings, if I recall correctly, was that this gas was commercial coal gas.

Q. Didn't you testify before the Gas Commission that the cost to the Boston companies of this New England Coal & Coke Company gas was about fifteen or sixteen cents, but that there was additional expense put on to treat it afterwards, and isn't this twenty-
3277 three cents which you refer to here the cost of the gas after it has been raised to the candle power required by law?

A. I think it has been purified, and probably some oil, but I do not believe it has been raised to the average of 19.37.

Q. You do not know, do you, Professor?

A. No, not positive, but that is simply my impression, that it was mixed with the other gas before that candle power was reached.

Q. Well, what did you find the cost at the station was of the gas that this company manufactured itself at Boston?

A. 42.05.

Q. That is very much in excess of the cost at the station of the Consolidated Gas Company's gas, isn't it?

A. Yes, they make it under very much greater difficulties than you do. They have to mix it by "fits and starts."

Q. And it costs very much more, too, doesn't it, about ten cents more?

A. But the average cost of the whole is about the same.

Q. Well, that is another proposition. The company's gas which it manufactures itself costs nearly ten cents per thousand at the holder more than the gas of the Consolidated Gas Company in New York, according to the reports, didn't it?

A. Yes.

Q. Now, don't you know that the New England Coal & Coke Co. which produces this low priced gas as a residual product and delivers it to the Boston companies, gets its coal, alongside, from Nova Scotia; and I think you testified before the Gas Commission at $1.95 a ton?

A. There was testimony to that effect brought out by some investigation, but I never, I think, knew the price except as I have heard it.

Q. You have no reason to doubt it—you have heard it generally?

A. I don't know what the price was covered by these figures
3278 for that year. I have heard it, but I was unable to get official information on it.

Q. You have no information it was different from $1.95?

A. My impression is the $1.95 was first brought to my attention in the examination six months ago.

Q. And you testify that was your information, don't you?

A. I don't recall what I said.
Q. Don't you?
A. I don't remember that I said I had any information.
Q. I suggest you look it up.
A. Cannot you look it up for me?
Q. Isn't it your information that the New England Coal & Coke Company, when you were testifying in Boston, was paying about $1.95, alongside, for coal?
A. It is my impression that there was no testimony given on the subject, and none ever given by the Company, as the Company said it was not a corporation and refused to give information.
Q. But you have based your testimony here on what you learned and heard, didn't you? Don't you remember it was said it was about $1.95 a ton?
A. I don't remember anything but what you said?
Q. Didn't I ask you if it was not about $1.95 and you said that that was your information?
A. I don't remember. That is the coal from Nova Scotia with a great deal of sulphur in it.
Q. But a very rich gas coal?
A. Yes.
Q. As a matter of fact that coal was delivered to the New England Coal & Coke Company according to your information, was it not, and to no other Company in the city of Boston, because the same interests that controlled the New England Coal & Coke Company also controlled this Nova Scotia coal mine; is that right?
A. Your question has too many questions in it for me to answer it.

3279 Mr. MATHEWSON: Well, the stenographer will read it.
(Question read by stenographer.)

The WITNESS: Shall I tell you how many questions there are? You ask me the price, and whether delivered to any other Company, and to state that it was for a certain reason. There are three different questions. Which do you want answered?
A. I cannot answer them all by the same answer.
Q. Well, answer them all in detail then without answering them together.
A. I believe that the interest that owned the plant at Everett owned the mines from which they get coal in Nova Scotia. I believe to the best of my knowledge there are other mines in Nova Scotia situated near it of about the same quality, but the price obtained in Boston for that coal I am ignorant of.
Q. But, I am going to read your testimony now before the Gas Commission and see if you have any further corrections to make. I read from about the middle of page 1325, as follows:
"Q. You stated in Chicago if I read your testimony correctly, that about a third of the gas delivered by the Boston Companies was not made by themselves, but that they bought it? A. Yes.
"Q. Isn't it a fact that, according to the testimony last year in Boston, about 1,800,000,000 feet out of 3,000,000,000 feet distrib-

uted was bought; that is to say, was what was known as the New England Coal & Coke Company gas, which is produced as a by-product by that Company, which is a Coke Company? A. I have here the exhibit which shows that there was purchased about 1,600,000,000; in other words, about one-half of that they used for fuel.

3280 "Q. About one-half in the past year? A. Nevertheless, their cost——

"Q. I am just asking you whether that is a fact, Professor? A. Yes.

"Q. I am coming to that later about the cost; do you know what the New England Coal & Coke Company, which produces this gas, sells it to the companies for in Boston, I mean at what price? A. 15 cents; but it has to be purified a little afterwards.

"Q. Do you know what it costs to purify it? A. I had those figures, but I do not have them with me.

"Q. Could you make a general estimate? A. Oh, perhaps two or three cents, but ordinary purification does not cost that, but I think there are expenses in connection with the pipe line amounting to that much.

"Q. Let me ask you this, as I understand it, and you will correct me, if I am wrong, the New England Coal & Coke Company is a company whose main business is the production of coke? A. Yes, sir.

"Q. For the production of coke, it produces, we will say, from each ton of coal, about 10,000 cubic feet and about 7,000 cubic feet out of 10,000 feet produced per ton of coal is used to coke more coal, and about 3,000 cubic feet is transmitted to the pipe line company, which purifies it and delivers it to the Boston companies to sell as gas? A. From 3,000 to 4,000 feet.

"Q. So that only about one-third of the gas which this New England Coal & Coke Company produces really goes to illuminating purposes? A. Yes.

3281 "Q. The rest, about 7,000 feet out of 10,000 produced per ton of coal is simply used by the New England Coal & Coke Company to coke more coal? A. Yes, sir.

"Q. It cannot furnish and does not furnish, therefore, enough to the Boston companies to supply all their consumption, so that the Boston companies make about as much more? A. Yes.

"Q. Now, as a matter of fact, don't you know that the New England Coal & Coke Company was owned by the same interests that controls the Dominion Coal Company in Canada, and that the Dominion Coal Company accordingly delivered gas coal to the New England Coal & Coke Company in Boston for $1.95, alongside? A. About that.

"Q. And they do not deliver coal to anybody else in the City of Boston for gas purpose at that price, do they? A. No."

Now, do I correctly quote your testimony?

A. Yes. And it may be I had in mind some statements that President Richards may have made about that coal, but I don't remember it now.

Mr. BURR: He did not suggest the figure in that testimony you just read, Mr. Mathewson. You did.

Mr. MATHEWSON: I asked him if it was not that and his answer was "about that."

The WITNESS: It looks reasonable. It should be about that and it may be at that time I had some recollection. I don't know now about any recollection.

Q. If you so testified at that time, that was the best information you had at that time, wasn't it?

A. Yes. It applied to a previous year, not to this current year.

3282 Q. Now, as a matter of fact the *coal* which is produced by the Boston Gas Company itself and is not obtained from the New England Coal & Coke Company is produced from coal which comes from other sources, the same as we get our coal in New York from other sources, isn't it?

A. Yes.

Q. And the cost in the holder of the gas which the Boston Company itself manufactures is, you have stated, about 42 cents?

A. Yes.

Q. Now, let me ask you whether it is not so that in the cost of gas local conditions govern and that you must take each place and figure it out on its own basis as to cost of material, cost of distribution, salary, wages and other things?

A. You will have to do that largely but you can be greatly helped in forming your judgment of good management by your knowledge of what other companies are doing.

Q. Did you not in Boston before the Gas Commission testify in this manner (page 1336 of the record before the State Gas Commission):

"So that, when you come right down to it, as I think you said in some other place, you must, to get exact data, take the particular place under consideration, and devote yourself to the local conditions there? A. That is right. I was only trying to establish a general rule, but there are always exceptions to all rules."

A. Yes. Now, you just read a long quotation from my testimony. I want to call the Master's attention to the fact that I did not there refer to whether the gas obtained from coke oven plant was enriched in candle-power or not before it was delivered over to the pipe line, but what I did refer to was its being somewhat further purified. I am not sure as to the enrichment even now, but you formed the

3283 impression I think that I had testified as to its enrichment. What you quoted there only referred to purification.

Q. Now, in view of the difficulty in getting this thing down on the record I am going to read further from the Gas Commission record while I have it before me, and ask you to say if this is an exact quotation of your testimony before the New York Gas Commission? I read from page 1336 as follows:

"Q. Now, in 1897 you testified in Chicago, if I am correct in my "assumption, that ninety cents was a fair price for gas in the City of "Chicago? A. I don't—that was brought up in a hearing in Chi-

"cago the other day. I don't know what it referred to, as I didn't "give any testimony in 1897, and I never gave testimony in the Chi- "cago gas case—oh, I thought—yes, it was a hearing in Springfield, "not in Chicago.

"Q. But relative to Chicago? A. But relative to Chicago, yes.

"Q. Ninety cents. Now, isn't it a fact that, since 1897, both labor "and material have risen? A. Yes.

"Mr. DEFORD: Now, I would just like to ask with respect to what "part of the direct examination is this cross-examination? He has "made no statement here as to what it would cost to produce gas "here, and he is ask*ing* what he testified concerning the cost of pro- "duction of gas in Chicago, at a Springfield hearing in 1897. It "seems to me remote and not proper cross-examination.

"Mr. MATHEWSON: I do not think it needs much argument on "that proposition. You have asked him about Chicago distribu-
"tion and one thing and another in this case, and, besides
3284 "that, I propose to show what he testified, that in one city
"ninety cents was proper in 1897, and labor and material "have risen since then. I think, to test the witness' observations "and the value of them, all these things are proper.

"The WITNESS: I would like to explain to the Commission the "fact, that, in 1897, when this testimony was given, I had not made "much study of the Chicago gas companies. I did not know any- "thing about their real costs of material, if I recall correctly, and it "was pretty largely an estimate based on a guess, as you might say. "I don't remember that the company had ever produced any accu- "rate data. Soon after that, however, I did come across a report of "a Chicago gas company to the New York Stock Exchange.

"Q. But, professor, at the time you delivered this testimony, then, "that you thought ninety cents was a proper figure in Chicago, you "say it was only a guess, and you have no data to proceed upon? "A. I didn't say I had none, but I don't think I had accurate data "of the cost of oil and coal.

"Q. You said a moment ago it was only a guess, did you not? A. "Yes, to a large degree; that it was based on some evidence, I insist "on. But I say it was not based on as much evidence as my later "testimony in Chicago, or the later testimony I have been able to "give in other cases. I had not studied the subject then as much as "I have since, but I think I ought to say that I later found a report "of the Chicago companies to the New York Stock Exchange, when
"they were issuing some securities."

3285 If you have any doubt about my having accurately read it, I wish you would note it an*y* say whether I have or not.

Mr. BURR: You have accurately read it.

A. I believe you have accurately read it.

Q. You stated there that labor and material have both risen since 1897, when you testified that 90 cents was a fair price in Chicago, and even the last year you have gone to Chicago and testified that less than 60 cents was a proper figure, is that right?

A. I do not recall about less than 60 cents.

Q. Was your estimate a year ago in Chicago when you testified there above 60 cents as the cost of gas?

A. Do you refer to this pamphlet?

Q. I refer to your estimate to the City of Chicago, as shown in the pamphlet to which we have all referred.

A. Will you point out the page?

Q. No, I merely asked whether you did not give an estimate to the City of Chicago a year ago which was less than 60 cents in spite of the fact that the material and supplies have both risen since 1897?

A. I don't remember. I don't find anything here. I may have referred to the operating expenses, but I don't know what you refer to, and in fact, I may say that I have since then been trying in every way to see what the testimony in 1897 in Springfield was and I could not put my finger on it or find out if there was any authority for saying that I stated 90 cents, except Mr. Mayer's implication when he was cross-examining me in Chicago. I took it for granted he had the evidence there before him and I did not remember it and assumed he was quoting it correctly just as I have in this case frequently assumed you were quoting it correctly, but I had no personal recollection of it.

3286 Q. I merely asked you before the Gas Commission if this testimony is correct, whether you did so testify and you replied as the record shows, didn't you?

A. I did, but I do not think it is what you find; it changed a good deal since then and I cannot put my finger on what I said or when.

Mr. BURR: And it does not say it here in the testimony. You claimed he said 90 cents.

Mr. MATHEWSON: I will let the testimony speak for itself.

The WITNESS: I think it was because of my too readily assenting to a suggestion on cross-examination in Chicago.

Q. And do you remember in Mr. Cowdery's statement, in his estimate to the Committee on Gas an- Electric Light of the Common Council of Chicago, "There are no two places probably in the United States where conditions are same," referring to the cost of production and distribution?

A. I don't remember, but I should prefer to believe they were not absolutely the same.

At 4:25 P. M. adjourned to October 24th, at 12 o'clock.

Last Exhibits:

Complainant's 256.
State's W.
City's 59.

3287 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *October* 24, 1906—12 m.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Kirby.

3288 Mr. BURR: On page 3267, in my remark on that page, the word "custom" should be "question."

EDWARD W. BEMIS resumes the stand.

Cross-e-amination by Mr. MATHEWSON (continued):

Q. Referring to the Chicago report to which the City counsel referred, and upon which we have commented from time to time, it appears that statements were presented by yourself, Doctor Humphreys and Mr. Cowdery. That is correct, is it not?

A. Yes.

Q. Now, as to you and Doctor Humphreys we know. It appears from this pamphlet, page 8, if it is correct, that Mr. Cowdery has been connected with the gas business for thirty years, that he commenced with the Toledo Gaslight & Coke Company of Toledo, tha in 1877 he went from there to Milwaukee, where he became assistant superintendent; that from 1882 to 1884 he was connected with the People's Gas Company of Chicago; in 1884 he returned to Milwaukee and became superintendent of the plant——

Mr. BURR: What is the object of all this description of Mr. Cowdery?

Mr. MATHEWSON: I am just calling attention to Mr. Cowdery's experience, and then purpose to ask some questions as to Mr. Cowdery's views and ask this witness if they affect him, after showing his qualifications.

Q. (Continuing:) and subsequently general manager, remained there until 1903, when he took charge of the Laclede Gas Co.'s property in St. Louis, and it appears on page 8 in his statement that he has been interested with others in the purchase of gas
3289 properties and their improvements, building up their business, and so forth, including the plants at Racine, Kenosha,

Fond du Lac, and other Wisconsin cities, and I quote from his statement as follows:

"During those thirty years it has been my duty as well to cover the country thoroughly to know what other gas companies were doing, to become acquainted with the men operating those companies; and during that time I believe I have become pretty well acquainted with practically all of the men operating gas properties in the United States, and I am familiar more or less with the conditions that govern the different properties throughout the country. I have been connected with the gas associations of the country for ever twenty years. In 1892 I served as president of the Western Gas Association, an association which is supposed to incorporate in its membership practically all of the gas men operating gas companies throughout the Middle States. I have just served during the last year as president of the American Gas Association, which is the national association of America and supposed to embrace all of the gas men of the United States. I was for one year president of the State Association of Wisconsin."

Now, in the questions which I asked you yesterday as to Mr. Cowdery's statements and views and as to your concurrence therein, were you familiar with Mr. Cowdery's experience and practical work in the gas business as he has recited it?

A. I had never met Mr. Cowdery until I was introduced to him during that week, but I have seen his name as connected with the Milwaukee company, particularly, and later with the St. Louis Company.

3290 Q. You have no doubt, I suppose, that the statement of his experience which I just quoted is true?

A. I know nothing about the other companies except what you have read that he stated. I do have other information that he was connected for a long time with the Milwaukee and St. Louis companies.

Q. You have no reason to doubt the accuracy of his statements, have you?

A. I have no reason to doubt the accuracy of what you have just read, as to his being connected with these companies, but at the same time I have no information either way, only I suppose that he would not give any inaccurate information on such a thing, but I cannot speak from any knowledge.

Q. Now, it appears that this committee of Chicago, in their report (page 3), referring to you, Mr. Cowdery and Dr. Humphreys, employs the following language:

"In selecting these three men your committee had in mind not only the obtaining of the best authorities on the subject, but authorities who would represent every phase of the subject. Professor Bemis was selected as representing the theoretical side of the question and that phase of it which is antagonistic to private control of public utilities and strongly favorable to municipal ownership. Mr. Cowdery, as one who for many years has been actively engaged in the construction and management of gas plants. And, lastly, Mr. Humphreys, the head of a great technical school and the leading

consulting engineer of America and Europe on the subject of manufacture and distribution of gas, as one who would present the subject from a wholly impartial standpoint, simply as a great engineer."

3291 Is that a fair statement of your position, as representing the theoretical side of the question and one that is antagonistic to private control of public utilities and strongly favorable to municipal ownership?

A. A little exaggerated.

Q. The Committee in their report say of you, "He approached the subject wholly from a statistical standpoint." That is correct, is it not, in that you had no personal experience in operating gas plants in Chicago or elsewhere?

A. I have had no personal experience, as I have stated in this case, in the operation of gas works; but I do not say that I am antagonistic to well-regulated, privately-managed gas works. I think that more and more the movement will progress toward municipal ownership, but I do not take the ground that all privately-owned gas works are to be tabooed or outlawed or treated unjustly.

Q. I see that Mr. Cowdery (page 10), referring to the fluctuations of as much as five cents per thousand in cost within two years, adds:

"In trying to fix the price for gas you must not take too narrow a view *for* it and therefore take the lowest possible cost in any one year as a basis. You must take into consideration the fluctuations in the prices of oil, fuel and labor, and make due allowance for such changes."

You will concur in that, will you not?

A. Subject to one qualification; that the general tendency of costs, as I have found in sixty odd Massachusetts companies, has been downward.

Q. But the general tendency of labor and material, as you have also stated, has been upward?

A. Yes, but despite that fact, the statistics of the sixty odd Massachusetts companies, tabulated as one company every year in the returns of the Commission, shows a tendency downward.

3292 Q. But the lower you get the less room there is for a further drop?

A. Well, I would not say that.

Q. Don't you think that it is so? There must be some limit below which you cannot expect companies to reduce the cost of gas, and the nearer you approach that limit the more serious the question becomes, doesn't it?

A. Why, in fact, there is a limit at the present time. That limit is a fluctuating one, with the progress of the art.

Q. Mr. Cowdery also states (page 10), that whether water gas is cheapter than coal gas in manufacturing is a question of locations and conditions entirely. That is the fact, is it not?

A. As to whether coal gas or water gas is more economical?

Q. No; whether water gas is cheaper in manufacture than coal gas, is a question of locations and conditions entirely?

A. Yes.

Q. On page 13, Mr. Cowdery also says:

"The only way that one can get at the proper cost in any particular place is by making a careful investigation in that particular place and by taking all the conditions into consideration that exist there."

Do you concur with that proposition?

A. That is one of the things to be undertaken, but there is always great room and reason for judging of the efficiency in one plant by one's knowledge of good practice elsewhere.. The two are well put together, or would be.

Q. But you would not feel that it was proper to fix the price of gas in any particular place through your generalizations until you had made a careful investigation of the conditions and costs there?

A. I have urged that that should be done in all cases. I have urged in this case for accounting and engineering investigations to supplement others.

3293 Q. Now, Mr. Cowdery further says (page 15), that

"The repairs and renewals that take place frequently should be charged to the repair account as they come along, but those that take place at infrequent intervals should be provided for by a reserve fund."

Is that substantially the view that you have taken and that you understand has been taken by Dr. Humphreys, that what is called final renewals should be taken care of by the reserve fund, and current renewals and repairs should be charged to the current repair and renewal account?

A. I understand Dr. Humphreys to provide that this whole thing can be put under the renewal fund and spent from time to time. That is what I understand his testimony to be. A sinking fund provision would rather look forward to a fund set aside as a sinking fund would be, and I have suggested that that was to me a simpler and more scientific method of treatment. But it can be done in either way. I think this *this* company has been doing it as Dr. Humphreys has suggested, in the way of a renewal fund.

Q. You stated, it appears at page 20, that coal and oil were cheaper in Cleveland than in Chicago, and you also said "labor also is cheaper in Cleveland" than in Chicago. Is that a correct quotation, or is that the fact, as you understood it?

A. I suppose I stated, if it appears there—you ask me now do I think it is true that labor and oil are cheaper?

Q. I asked you whether it is a correct quotation of your statement? I suppose that to be the fact myself; I am not questioning it at all.

A. I have an idea that that is true, but as to oil there was not ever given in this hearing a statement about the cost of oil per gallon in Chicago.

3294 By Mr. BURR:

Q. Which hearing?

A. In the hearing before the Chicago City Council.

By Mr. MATHEWSON:

Q. But, assuming the cost of oil in Chicago to have been what

you assumed it to be and what we have assumed it to be in the testimony here, according to your best information, you stated the other day that the cost of oil in Cleveland you now understood to be cheaper than in Chicago?

A. Yes, but I am not positive about the Chicago price.

Q. Now, taking up the subject of returns on capital. I want to ask you at the outset on what theory of valuation of capital you compute your return? Is it the original cost of the property? Is it the cost of reproduction now, or what is it?

A. It is any investment in the gas business. I say any investment in the gas business in the shape of stock or bonds can be floated on a six per cent. basis.

Q. No, I am getting away from paper and taking the substance. I do not care how much paper there is out representing the property. For the moment, I ask you whether you compute a return in your estimate upon the structural value of the property as it exists, or upon some other basis of valuation of plant and property?

A. My testimony was based solely on the way the securities sold in the market of all the leading companies east of the Mississippi River, without regard to whether that stock was larger than any particular theory of valuation or not. It was based solely on the dividends and interests of said securities as related to the market price of the same.

Q. But you have testified that you took six per cent.?

A. Yes.

Q. In your computations?

A. Yes.

3295 Q. And you have computed six per cent. on some valuation and have added the number of cents per thousand that that computation produces to your assumed cost of gas to reach the proper selling price for gas? Now, I want to know upon what you computed your six per cent.?

A. Yes. I understood you were asking me how I got the figure or six per cent. I will tell you. I used in my table as a matter of computation——

By Mr. BURR:

Q. Speaking of Table 16, page 3052?

A. Yes. I used in Tables 16 and 17 (page 3052) I used, as will be noticed, three or four different estimates of capitalization, and showed what six per cent. would be upon each.

By Mr. MATHEWSON:

Q. You expressed no view or preference then, nor did you establish any theory of valuation of property on which you were to compute the six per cent.?

A. I may not have done so. I have a theory and should have expressed it. It is quite likely I did not. Well, whether I did or not will have to be determined by the testimony.

Q. Now, on what basis of value of capital did you compute your six per cent. in procuring what you call the proper selling price for gas?

A. First, original cost of land now in use, after deducting land sold or no longer in use in the gas business. Second, original cost of mains and services that are now in use. Third, present structural value of the rest of the property necessarily used in the conduct of the gas business, such as buildings, machinery, holders, meters, supplies on hand, necessary working capital, which I assumed, as
3296 Mr. Carter had testified in the previous case before the State Gas Commission, at about a million dollars.

Q. Oh, no, he stated three million dollars, but arbitrarily divided it into a million dollars cash and two million dollars outstanding. Do not forget that. In addition to working material, which was $616,000 more.

A. I allowed the $616,000, and I allowed the million, and I made reference to the other two million dollars as the amount due the company, but there was no interest computed on it. Now, the present structural value which I have described or named is, in my opinion, to be determined by engineering investigations such as are now being made on the one side by the City and State engineers, and such as have been made on the other side by the engineers of the company, taking into account the cost of duplicating that property at present prices, and taking into account the present age and condition of the said property and its prospect of continued use. If, for example, a lot of that property is about to be discarded, as was asserted in the returns to the State Tax Commission, then a very low value——

Mr. MATHEWSON: I move to strike out "as was asserted in the returns to the State Tax Commission."

The WITNESS: As asserted in the evidence relative to those——

Q. Do you refer to the evidence in this hearing, before this Master?

A. This hearing and the State Gas Commission, that the value had been reduced very largely because of the prospective abandonment.

Mr. BURR: There isn't any question about that, is there?

3297 Mr. MATHEWSON: Yes, there is a great question. We do not intend, as far as I understand, to replace a single gas plant at Astoria if this 80-cent gas act is sustained. We could not afford it, could not think of it for a moment. That is pretty nearly in evidence.

Mr. BURR: No, it is not.

Mr. MATHEWSON: All this testimony the Professor is referring to is while the charge for gas was one dollar.

The WITNESS: I was not determining what you were to do with that property, but I say the facts bearing on that must all be taken into consideration in fixing the structural value. That is what I meant to say.

Q. Very good. Now, let me ask you a question right there. If you were going to reduce the value of the plants in Manhattan on the theory that they are going to be abandoned and the Astoria plant substituted for them, you cannot avoid substituting in place of these Manhattan plants the value of the Astoria plant, can you? You cannot discard one without including the other, can you?

A. I could not answer you that without an explanation.

Q. Well, it seems to me you can answer it and then explain. In other words, if you propose to discard part of the value of the Manhattan plants on the ground that they are to be abandoned, can you logically avoid including in the property the value of the Astoria plant which would be in existence when the Manhattan plants are abandoned and which will take their place? Cannot you answer that directly and then explain, if you please?

Mr. BURR: Do you mean included in the Consolidated?

Mr. MATHEWSON: I mean included in the value of the
3298 property, a return on which must be taken into consideration when you are fixing the price at which the gas produced by those plants goes to the consumer. I do not care how you figure it out as a mathematical proposition.

Mr. BURR: It is a different entity at Astoria, and a different corporation.

Mr. MATHEWSON: Oh, well, that makes no difference.

A. The valuation of the Consolidated would certainly be an independent valuation. I would not assert that when the plants are abandoned that there would not be necessary other capital to take their place. I believe that it would be necessary, and productive capacity, to take their place.

Q. Can you then reduce the value of the Manhattan plants in your estimate upon the assumption that they are to be replaced by other plants without at the same time including the value of those other plants which are to be substituted, and if so on what possible theory?

A. The valuation of the Astoria plant to me is an entirely separate proposition. When it comes to manufacturing gas, it will have to be reckoned with.

Q. But you are anticipating now when you say you would reduce the value of the Manhattan plants on the theory that they are going out of the manufacturing business; you are anticipating there. Can you anticipate in that way in reducing the value of the Manhattan plants without anticipating also by including the value of the plants that are to be substituted for them at the same time?

Mr. BURR: I think we shall contend that if there is any loss by reason of the removal of these plants to Astoria, the construction of
3299 new plants in Astoria for the Astoria Light, Heat & Power Company, that the loss should not be sustained by the consumers in the Borough of Manhattan, but must be charged up to the corporation known as the Astoria Light, Heat & Power Company.

Mr. MATHEWSON: That is not the proposition. The proposition which is now advanced is that the value of the plants in Manhattan will be reduced in some way on the theory that they are going out of business, but that nothing will be included for the value of the plants which take their place when they do go out of business.

Mr. BURR: What plants take their place?

Mr. MATHEWSON: We won't argue on that now, Mr. Burr.

Mr. BURR: The Astoria Light, Heat & Power Company's plants take their place, if any.

Mr. MATHEWSON: We may absorb the Astoria Light, Heat & Power Company before that occurs; and it may be a single corporation, for aught you know, if that was of the slightest importance in the discussion.

Q. (Question repeated.)

A. In my computation I did not cut off that loss of value connected with removal to Astoria. I contemplated no reduction in the value of the plants on the Island of Manhattan, except such reduction as engineers now studying the subject would find to be their actual depreciation, taking into account the present state of the art, and the relations of these plants to it, and their efficiency; based also on their location; but I did not take that position which I understood to have been taken, by the evidence, as a justification for a return to the State Tax Commision, namely, a scrap value, for half of the duplicable property on the Island. I did not do that. I have said—I think I made that clear.

3300 By the MASTER:

Q. Well, have these engineers reported?

A. They have not reported yet. They are still at work, by permission of the Court.

Q. Do you understand they have decided what they are going to report in advance of completing their investigation?

A. No, I do not. I have not said that I did, have I?

The MASTER: No, but I wondered if that was so.

By Mr. MATHEWSON:

Q. But you advanced the theory a few moments ago that in estimating the value of the Manhattan plants you would take into consideration the probability of their continued use or their early abandonment, and that was the occasion of my asking you how, if you are going to reduce their value by reason of that, you logically avoid including the value of the plant which will be substituted for them to the same degree, and if there is any logical reason I would like to know what it is.

A. Well, my thought in that statement a few minutes ago, was that there should be two valuations by the engineers, one with reference to the present efficiency of the plant, and the other with reference to the removal to Astoria, and I had not in mind to settle the question as to the relative weight to be given to those two points of view, but in my own computations I have taken the view of the valuing of the properties on the basis of their efficiency and not on the basis of any scrap value.

Q. In fact, you have discussed here the probability of the production of the coal gas at Astoria cheaper than the production of the coal gas in Manhattan and have based on that an argument in
3301 favor of the probable reduction in the station cost of all the gas, have you not?

A. Yes, sir, I have fully taken that into consideration as to the coal gas plants.

Q. You cannot take that into consideration on the one hand and then exclude the Astoria plant from consideration on the other when it comes to a consideration of capital, can you?

A. I could not, but I did take both into consideration in this way, that the economies that could be affected by an up-to-date plant, whether at Astoria or elsewhere, I would not undertake to say, ought to return in a short time—not the first year necessarily—six per cent. on the investment. But I did not presume to pass upon the wisdom of the selection of Astoria.

Q. I understand. Now, let me ask you another question on this Astoria proposition. The consumers of gas produced at Astoria must in some way pay a sufficient amount to make a return upon the investment at Astoria, must they not?

A. In the course of four or five years; not necessarily the first year.

Q. Well, directly or indirectly——

A. Yes.

Q. The consumers of gas produced by the Astoria Company must pay a return on the investment at Astoria which produces that gas.

A. Yes, I should say the average for the next ten years should be six per cent.

Q. I did not ask you about rates.

(Question repeated.)

A. I must qualify even what I stated, provided the Astoria investment was a wise one, which I will not undertake to determine. If it was an unwise one, there is nothing in the law of nations or fate by which we should guarantee them any return.

Q. Then if gas is produced at Astoria and is consumed by
3302 consumers, they don't have to pay anything for their gas as a return on capital, provided the investment at Astoria is an unwise one; is that the proposition?

A. That is the law of business.

Q. That is your proposition?

A. Certainly, unwise investments are failures always in all businesses.

Q. Do you mean to say that consumers receiving Astoria gas, if it is sent out by the Astoria Company and sold to them, and is produced at reasonable prices at Astoria, that the consumers of that gas will not, under all circumstances in law, be compelled to pay a return upon the capital that produced the gas, assuming that the capital was invested at not excessive amounts?

A. If they have not made a wise investment they certainly will not be able to sell their gas at all.

Q. That is another proposition.

Mr. BURR: That is what you mean, is it?

The WITNESS: Yes. They would fail up for lack of a market.

Q. We will have to take our chances about failing up. You are not under that burden.

A. It is the same proposition as the New England Gas & Coke Company.

Q. Let us see if it is. If you treat the Astoria Company as separate from the Consolidated Company, then the Astoria Company is entitled to charge to the Consolidated Company, to which it delivers its gas, the cost of the gas, plus an amount sufficient to make a proper return on the Astoria investment, is it not?

A. Depending on whether the Consolidated Gas Company can do better in its own works. It is not obliged—if they are separate corporations, as your questions ask, the Consolidated Company is not obliged to buy it.

3303 Q. Supposing the Consolidated Company does buy it or any other company buys it, Company A, B or C?

A. Yes.

Q. The Astoria Company is entitled, if it makes gas at a reasonable and prudent rate, to charge in selling the gas the cost of the gas, plus enough to return a proper rate of interest upon this prudent investment in the production of gas, isn't it?

A. If it is a rational investment of capital; otherwise not.

Q. We will assume it is.

A. That is the point I was making all the time.

Q. Let us go a step further. The Consolidated Company then would get the gas at the cost at Astoria plus an additional amount sufficient to make a proper return upon the investment at Astoria that produced the gas?

A. Yes.

Q. And that would have to be taken into consideration by the Consolidated Company when it fixed its price to the consumer, would it not?

A. Yes, so far as it bought any gas from the Astoria Company.

Q. Now, supposing the Consolidated Company owned the Astoria plant directly, it then would be entitled to the proper cost of the production of gas at Astoria plus an amount sufficient to produce a return upon its investment at Astoria, would it not?

A. Provided the investment was a wise one.

Q. So that in substance there is not the slightest difference whether the Consolidated Company owns the Astoria plant directly or whether the Astoria Company is a separate organization and the Consolidated Company buys the gas at the cost to the Astoria Company plus an amount sufficient to afford a fair return to the

3304 Astoria Company on its investment, is there?

A. Yes, I think there is a difference.

Q. Does it work out any differently in dollars and cents?

A. Yes.

Q. I should like to know how?

A. If the whole plant were owned by the Consolidated Company and you admit that it was a wise investment——

Mr. BURR: Wise and necessary investment.

The WITNESS: Wise and necessary investment, the Consolidated stockholders would be affected by the profits of that company from

the start. If, however, it were an independent organization which was establishing a plant for the next, not two years but ten years and longer, twenty years and thirty years, in the growth of this city and Brooklyn, or Greater New York, in other words——

Q. But we have no franchises, you know, outside of the Island of Manhattan and Long Island City.

A. Well, the right to sell gas to other companies, I mean—if that be taken as an independent proposition, then its burdens for the first two or three years would not be borne by the Consolidated. The Consolidated would simply pay for the gas that it bought, and it might be that the Astoria Company, building for the future, might do wisely to look forward to no dividends the first two years, and then dividends that would gradually increase until ultimately they averaged six per cent. from the start. I should say it would make a difference to the Consolidated Company therefore.

Q. I am not talking about the Consolidated or the Astoria; I am talking about the cost of gas wherever the investment is, or whoever owns the investment, assuming it is a prudent one, and that the gas is produced at a fair price, the consumers of that gas must
3305 pay enough to afford a fair return upon the investment in addition to the station cost of that gas.

A. It must be such, assuming that the Astoria is built solely for the Consolidated consumers.

Q. Assume that, then.

A. I do not find anything in the evidence to prove that.

Q. Assume that, and then is your answer in the affirmative?

A. Read the question, please.

Question read as follows:

"I am not talking about the Consolidated or the Astoria, I am talking about the cost of gas wherever the investment is or whoever owns the investment, assuming it is a prudent one, and that the gas is purchased at a fair price, the consumers of that gas must pay enough to afford a fair return upon the investment in addition to the station cost of that gas."

Mr. BURR: That is the object of this action, to have that determined, is it not?

Mr. MATHEWSON: Not at all.

Q. Isn't that so?

A. On those assumptions, the consumers—all the consumers, not necessarily the Consolidated Company's consumers, but all the consumers of Astoria gas wherever located in the long run, would be, according to my theory, likely to pay and ought to pay a six per cent. return upon the investment.

Q. They ought to pay whatever is a fair return, ought they not?

A. Yes, taking that assumption, you understand, that it was a wise and necessary investment, and taking the further assumption that it is all the consumers of that gas and not merely the Consolidated consumers.

Q. Of course you understand from the evidence, don't you, that

the Consolidated Gas Company owns all the stocks and bonds
3306 and notes and securities of this Astoria Company?

A. Well, I could not put my finger for the moment on the evidence, but that has been my impression of the evidence. I think I have read it.

By the MASTER:

Q. Professor, you said that in figuring on the price of gas, you take the land at its original cost. Now, do you announce that as a general proposition or do you simply have in mind this particular case of the Consolidated Gas Company?

A. I asserted as a general proposition, upheld by the law and practice in Massachusetts and Great Britain as to all gas companies. I know of no exception to it in either Massachusetts or Great Britain in the last ten years.

Q. This Consolidated Gas Company, let us say, has paid dividends continuously, for some period. But suppose you had a gas company that for some reason had not paid any dividends for a few years but had skipped, say, for three or four years in dividends. How do the stockholders of that company get a return on the capital that is locked up in their real estate, if always as a general rule you are going to base the proper price of gas on the original cost of the real estate irrespective of any subsequent rise in value or any extraneous consideration whatever? Is that fair in your judgment?

A. Yes, the company that is declaring no dividend, would have the right, I suppose, to appeal to the State Gas Commission in New York State for the privilege to increase its price. That has been done in Massachusetts and it is done in England.

Mr. MATHEWSON: Well, it is not done here.

3307 The WITNESS: And they would have the right to show—Gas has been increased in New York City after the gas war.

Mr. MATHEWSON: No, never by the Legislature or by any authority.

The WITNESS: Well, by the company. The companies would have the right to show not merely their dividends but their accumulated profits if it should appear that they had not declared dividends, because they had put the earnings into extensions of mains and holders, &c., that would have to be taken into account and would be considered a profit, though they had not divided it. But your question may not be answered fully, and if you mean to consider a company which has made no profits in any form, shape or manner, either by dividing them or by putting them into extension, and has simply done business without a profit for a series of years, is that the question?

Q. No, but I assume on a general proposition, that any capitalist who puts any money in the business is entitled to a return on his money. That you do not dispute?

A. No.

Mr. BURR: But you will bear in mind this is a public utility corporation.

The MASTER: Well, a man has some rights even if he puts his money into that sort of a company.

Mr. BURR: But assuming that function to the general public is a little different than the general proposition you have submitted.

Mr. MATHEWSON: Only to this extent, and it has been upheld by the decisions, that within reasonable and just limits, the rate of return may be governed; that is all.

3308 Mr. BURR: That is right, I agree with you.

Mr. MATHEWSON: Not as to the value.

Q. The only question to my mind is this, if you take an inflexible rule as I understand you do, a general rule that in getting at what would be the proper price of gas, and proper return on capital invested, you have to take real estate at its original cost, a case might arise where that would work injustice. I do not mean to say that is this case, but suppose you take a case where for some cause or other a gas company had been obliged to suspend its dividends for several years during which time the stockholders got no return on their investment at all.

A. I would say as to that that such a fact should be taken in consideration in connection with the price of gas. A Company would be treated very differently that had made no profits in any shape or manner than a Company that had, but that is not a question of valuing the capital.

Q. Then it comes back to the point that it is not an inflexible rule necessarily?

A. There are two questions to consider, first, the capital and next, the capital on which the profits are to be rendered. Now when I said that some consideration in fixing price so as to yield profits, should be given in a case such as you mention, I did not mean to say that I would change my theory as to determining the proper capital, only the proper price and the profits; but the capital, I do not see any exception to the position which has become an inflexible rule both in Massachusetts and Great Britain, that they cannot capitalize any increase in the value of land or any results of street paving.

Mr. MATHEWSON: We do not think that is a fair statement, either of the law of Great Britain or Massachusetts.

3309 Mr. BURR: Mr. Mathewson smiled at the suggestion of the Professor, that they might under those conditions, appeal to the Commission to raise their rates. The very object of this action here is an appeal to some future Legislature to raise their rate, if they are successful here, because the Court is not going to fix a new rate. The Court may say that this rate is confiscatory and unfair and unreasonable, but the Court will not fix what is a fair rate, and they have to appeal to another Legislature or another Legislature will take up the question of what is a fair rate.

By Mr. MATHEWSON:

A. I recall in the law the provision that a mayor of a city or the consumers of gas may appeal to the Gas Commission in the State of New York to fix the rate of gas. Do you know of any provision

in that law authorizing the gas company who produces the gas to appeal to the Commission for anything?

A. I am not sufficiently familiar with the law to state. I think it is in the Massachusetts law.

Q. I think it is a very remarkable omission in our law. I do not find any such provision as that in it.

Mr. BURR: The old decisions say you can go back to the Legislature, and the new decisions say you must go to the Court.

Q. Now you lay down two lines of computation in reaching capital. You say so far as land and mains and services are concerned, you will take the original amount invested therein as your basis, but when you come to — plant, you will take, not the original amount invested, but the appraisal thereof to show the structural value at present. What logic is there in that proposition?

A. Before answering that, in order that my previous reply
3310 may be correct on the record, I wish to qualify what I said about mains and services to this extent. I should take the original cost of laying the mains and services, but for the pipe itself, I should take the present structural value, just as I would of buildings and machinery and holders and meters; in other words, the duplicable property, as it were, should be taken on its present structural value, but the land value and the laying resulting from paving should be fixed at its cost originally. Now, coming to your question, as to why I make that distinction, I make it because I—I have described it I think in the case of paving a few days ago, in answer to the Master——

Q. No, you are getting beyond my question. Then I understand you now to say on reflection that the basis of capital upon which you compute your return is the cost of reproduction to-day except that you exclude the additional cost of paving, the additional value of the services and mains due to a more expensive paving, and exclude any additional valuation of land due to lapse of time and growth of the community. Is that right?

A. Yes, if you understand as to the rest of the property that it is the cost of duplication less the decline in its efficiency and value due to use and the progress of the art, to what I mean structural value.

Q. Structural value?

A. Yes.

Q. Structural value with you, then, means cost of duplication, of course taking into consideration the depreciation which has occurred?

A. Yes.

Q. And that was the basis which you assumed in Chicago, wasn't it, cost of duplication?

A. I had no data in Chicago as to the plant; there was no inventory and no engineering report, but I think I took an estimate of what a new plant would cost and took their statement that their plant was as good as new, and figured out an estimate there.
3311 But——

Q. Cost of duplication, wasn't it?

A. Yes, but I asserted in that statement that I made, wherein I

think I took the figure of $3.20 per thousand feet, that should be subject to change on an investigation by engineers.

Q. Oh, yes, but the theory was cost of duplication?

A. Oh, it was that theory, yes.

Q. Now, we will assume that we have land in the gas business which cost $7,000,000; that it has increased in value, and meanwhile of course our taxes have increased as it has increased in value, until to-day it is worth fifteen million dollars in the market, and that we could sell it to-day for fifteen million dollars, and have the use of that money or that we could lease it on a basis of fifteen million dollars valuation, and that our manufacturing plants are properly on that land; now do you mean to say that it is your view that because the public is having the use of that land in a sense, that we are entitled to a return of only seven million dollars, while if we sold it in the open market, or used it for any other purpose, or leased it, we could get a return of fifteen million dollars?

A. You are assuming that this is all an increase in the land value?

Q. Yes.

A. Yes, I hold that they should not increase the price on account of the increase in the value of land.

Q. You hold then, that while anybody else might have to pay fifteen million dollars for the land, or while we could lease it to anybody else on a fifteen million dollar basis of valuation, that merely because the public is using it, we can get a return on only seven million dollars, when we could sell it for fifteen million dollars in the market; is that it?

A. I should hold——

3312 Q. Well, is that it or not?

A. As I understand your question, it is the same as I assent to.

Mr. BURR: You must also have the further fact in mind, according to the testimony in this case, that no better or greater gas can be made on the land that was purchased in 1884 than on the same land in 1906.

Mr. MATHEWSON: Yes, there is a great deal more, and very much cheaper, both.

Mr. BURR: On the same land?

Mr. MATHEWSON: Yes.

Mr. BURR: Because of the land?

Mr. MATHEWSON: No, of course not, there is no claim of that sort.

The WITNESS: That is what I assumed.

Mr. MATHEWSON: Our claim is that here is land that we are devoting to the use of the public and they are obliged to pay for it the same as any individual.

Mr. BURR: Used in the gas making business.

Mr. MATHEWSON: Certainly.

Q. Now, Professor, if the land should increase from something like five million dollars in valuation, which you have assumed from Mr. Yalden's report may have been the original cost in 1823, and from then on to fifteen million dollars and even one-third of that

land were sold, that five million dollars would wipe out the entire investment in land would it not?

A. Yes.

Q. So that in that view you would allow no land at all and no return on land, in computing the capital upon which we are entitled to a return?

A. That is right.

Q. You don't think then if land increases in value, the capital of a company not being impaired at the outset, that that
3313 increase in the value of land forms a surplus which stockholders are entitled to?

A. I have not discussed the question of a sale of one company to another——

Q. No, I am not discussing it and do not want you to answer on that basis, because I did not ask you any such question.

A. No. But if the other position be taken, that the company is entitled to earn on the appreciation of its land, then to exactly the same extent has its operating expense been reduced, because you will have set that increase off against your expenses of operation; as long as the six per cent. on the original investment is kept, justice has been done and you can get your capital. The main point is that Wall Street will give you your capital, and that is all we need to know. The law of the market will give you all the capital you need on a six per cent. basis on that proposition.

Q. We do not think we can settle this on a Wall Street basis, but have to settle it on a business basis.

A. The United States Supreme Court has declared you could, in the Adams Express Company cases.

Q. If they did, you will not have to emphasize it with your own opinion. But do you think that a theory, which by an increase in the value of land very much less than is claimed, and I may say admitted in this case, to have been the increase in the value of the Consolidated Gas Company land, would wipe out the entire investment in land, is a possible theory to entertain?

A. Yes, and I maintain further that it is the practice in Great Britain and Massachusetts.

Mr. MATHEWSON: I move to strike that out. We have had it four or five times.

The MASTER: No, let it stand; it is a justification for his opinion, and I think he is entitled to have it appear there.

3314 Mr. MATHEWSON: Exception.

The MASTER: Let me ask another question, if you do not mind my interrupting.

By the MASTER:

Q. Suppose this land that Mr. Mathewson speaks about cost $7,000,000 originally, and is now worth $15,000,000; suppose the gas company in order to make the same amount of gas under equally advantageous conditions that they now make on this land would have to pay ten million dollars for a piece of land if they moved; what effect would that have on your scheme?

A. No effect unless the law compelled them to move because they were a nuisance or something of that kind. Then it would have an effect. The increase—if, for example, they were obliged to sell their own land and buy new, on account of their becoming a public nuisance, then any increased investment in land after selling their old land would become a legitimate charge on capital.

Q. Well then, would it not resolve itself into this, that if under existing conditions, to make a certain amount of gas, the necessary land on which to put your plant would cost ten million dollars, because a gas company bought this land a good many years ago when it was cheap, and they got it for seven million dollars, the public on your theory would get the benefit of that unearned increment, would they not? They would have the benefit of gas made on land that cost three million dollars less than any gas company starting in the market to-day, to manufacture gas, would have to pay?

A. Yes.

Q. That is about the size of it?

A. Yes.

By Mr. MATHEWSON:

Q. Supposing it were the case that by reason of rise in
3315 material and labor, it would cost to-day twenty million dollars to produce the manufacturing plants which originally cost certain companies ten million dollars, then you concede in fixing the price of gas you must take as the valuation of that plant, the cost of duplication which would be twenty million dollars?

A. I have in this case assumed that it has been the—there are certain reasons for criticising that, but I have assumed that any change, either a rise or fall in the value of material—pipe for example has fallen in the last thirty years, although not much since 1884; building materials may have risen; and so I would apply the rule in this case and I am applying it that you asked me about; but I realize there may be some objections to it.

Q. So the theory you are now applying is cost of duplication of property except land, but not cost of duplication of land?

A. And the same applies to paving as to land.

Q. Yes, but in the case of land, the city has not put any expensive pavement over that to raise the value, you understand, that is the mere natural rise of value due to the growth of community.

A. Partly due to public improvement.

Q. For which we probably paid our assessments in due course?

A. I don't know.

Q. Now, you said the other day that a purchase in the market was the best evidence of a proper return or of the rate of return which might be allowed——

A. Before you ask that question, may I make a further explanation of my last answer, or would you rather I wait until the redirect?

Q. If it is anything brief, I have no objection to it.

Mr. BURR: It is ten minutes after one. Do you want to stop now?

Mr. MATHEWSON: Let the Professor say what is on his
3316 mind, if he has something brief on that subject. I do not want a long discussion.

The WITNESS: In conversation with the Massachusetts Gas Commission at different times I have found their theory has been——

Mr. MATHEWSON: I object to that. We have had conversations and we have letters and other things. Does he want to quote the Massachusetts Gas Commission? Why not bring them on here?

The MASTER: I think that is a little remote. I think you can explain what your own view is, but I don't know that what they told you is of very great importance.

Mr. BURR: And he may explain his reasons.

The WITNESS: I will change it and see if this will be less objectionable. In the decisions of the Massachusetts Gas Commission I have found that the companies in Massachusetts, the sixty odd companies, have not been allowed to capitalize any increase in the value of their buildings, even, or machinery, that has been brought about by earnings.

Mr. MATHEWSON: That is another proposition, and when we get to it we will see what earnings they do allow in Massachusetts. I think we are satisfied with that.

The MASTER: Shall we take the recess now?

Mr. MATHEWSON: I would like to have the Professor state the companies which he had in mind which he said sold bonds at par and above, for a five per cent. rate.

The MASTER: Did he not give that on the direct?

Mr. MATHEWSON: No, he only gave a few. In Table 14
3317 he gave certain companies as illustrations.

The WITNESS: Shall that come this afternoon?

Mr. MATHEWSON: I would like the whole list if you have them.

Mr. BURR: You have them, have you not?

The WITNESS: I think so. I have not them at my fingers' ends, but can produce them this afternoon.

Recess until 2.30 o'clock p. m.

After Recess.

EDWARD W. BEMIS resumes the stand.

Cross-examination by Mr. MATHEWSON (continued):

Q. Continuing my question, I refer to the thirty-four cities which the witness mentioned at page 3017. I merely asked the names of them.

A. I had hoped to present it in tabulated form, but the stenographers were out at lunch, so I will simply be obliged to read from my notes.

Q. I did not ask for anything except the names of the cities.

A. I see. On bonds: Boston, Minneapolis, Montreal, Rochester, Newark (New Jersey), Paterson and Passaic, gas and electric, Peoria, Rochester, St. Paul, Syracuse, Troy, United Gas and Electric of New Jersey, Washington, Brooklyn Union, Buffalo, Detroit, Kansas City, St. Louis, Milwaukee, New York and Richmond, Chicago, Trenton.

Q. Which Chicago, Ogden or People's?

A. On bonds, it was Chicago Gaslight & Coke 5's, which
3318 are bonds assumed by the present People's Company. It was the name of one of the largest of the original Chicago companies and the bonds are still outstanding. Newton, Massachusetts, I suppose, Westchester Lighting. So much for bonds.

On stocks: Cambridge, Mass., Charlestown, Mass., Boston, Montreal, Hartford, Kansas City, St. Louis, Louisville, Lowell, Lynn, Masschusetts Gas Company's preferred stock, Albany, Nashville, Toronto, New Bedford, New Haven, Providence, Syracuse, Troy, the United Gas Improvement Company of Philadelphia, Washington, Brooklyn Union, the Consolidated Gas of New York, Detroit, Milwaukee, People's Gaslight & Coke of Chicago.

Q. Do I understand that the Boston Consolidated Company has any bonds outstanding? You gave Boston as in the list of bonds?

A. That was the only city in the list that I could not read distinctly and it looked—it was written as I dictated it to one who wrote in longhand several days age, and it looked like "Bo." Now it may be intended for Baltimore. I recognize that Boston has not any bonds and it is probably the Consolidated Gas of Baltimore. That was 5's of the issue of 1939, that is, payable in 1939; and I think that must be Baltimore.

Q. Do you think that a five per cent. bond, where the earnings equal only five per cent. on the bonds, would sell at par?

A. Where the interest was paid at five per cent. right along.

Q. Do you think that the bond of a gas company where the earnings of the gas company are barely sufficient to pay the five per cent. and did not show a substantial earning capacity above five per cent., would sell at par?

A. It might have to be joined to dividends of six on stock.

Q. Isn't it as a matter of fact a very important element in the selling price of bonds, the determination of what the earn-
3319 ings of the company are, and how much those earnings exceed the requirement of interest?

A. That always is an element, but in this wide group of securities all of them are practically on a four to six per cent. basis. There are many whose full earnings are probably not known by the investor. He only knows that they have kept up their interest payments and their dividends.

Q. Have you been a large investor in gas bonds?

A. No.

Q. Then your idea as to what the investor thinks is simply your theory, is it?

A. Yes; but I am sure of the fact that the profits of many of these companies are a secret, which is not generally known to buyers of securities.

Q. Well, I don't doubt you do know that, Professor, but some of them pay interest on stock—it is a matter of public knowledge—do they not, or do not most of them pay interest on stock?

A. You mean dividends on stock?

Q. Dividends I mean?

A. Yes.

Q. And that itself would be some indication that the earnings

would be considerably more than enough to pay five per cent. on bonds?

A. Yes, I said that myself a few minutes ago.

Q. Have you taken pains in each one of these cases to ascertain the amount of the earnings of the company as distinguished from the amount that they pay on bonds or stock?

A. No, I took the quotations, as I stated in my testimony, of the *Commercial and Financial Chronicle,* and the rate paid by the bonds, as also given there.

Q. Without analyzing each one of those companies I am going to take one company (Table 14) respecting which we all know something, because it is a large company and we can test it; that is the Laclede Gas Light Company of St. Louis?

A. What page is that, please?

3320 Q. 3018. In illustration of your theory you say that the stock of the Laclede Gas Light Company is selling at 95 and paying 5 per cent. and that the preferred stock is selling at 95 and paying 5 per cent.?

A. And it is not in the table but I can tell you the bonds if you wish.

Q. Very good. I wish you would tell me the bonds.

A. What I have here is that all five per cent. bonds are quoted at 106⅞ to 110.

Q. Now you are coming to just the point I want. Will you tell me how many first mortgage bonds there are of the Laclede Gas Light Company in par value?

A. No, sir, I don't know.

Q. Haven't you the *Financial Chronicle?*

A. Yes.

Q. Will you tell me the amount of the bonds, first mortgage, and then the amount of the extending and refunding bonds?

A. If you have the page it will help me quickly.

Q. I haven't it. I have, however, the amount of the bonds, if you wish to verify it: Ten million first mortgage bonds and seven million extending and refunding bonds, or a total bonded indebtedness of seventeen million.

A. I have now on page 166 of the Railway and Industrial Section of the *Commercial and Financial Chronicle,* published on July 28, 1906, a statement about the Laclede Gas Light Company, and you ask me now about the number of bonds, do you?

Q. Yes.

A. It states here that twenty million of bonds, authorized issue——

Q. Of which?

A. Of which six million five hundred thousand dollars have been issued, ten million dollars are reserved to refund the outstanding bonds due 1919, and three million five hundred thousand dollars for not exceeding eighty-five per cent. of cost of future extensions and improvements. Then the outstanding bonds would be sixteen million five hundred thousand dollars.

3321 Q. That is the latest record you have, is it?

A. Yes.

Q. My impression is they will a little exceed that now, but we will take that figure.

A. There may have been a supplement since, but this was the last one I got the other day.

Q. That is the amount of the preferred stock and the common stock?

A. Preferred 5 per cent., cumulative, two million five hundred thousand; common authorized, seventeen million five hundred thousand; outstanding, eight million five hundred thousand dollars; so there is a total of eleven million dollars of stock. The dividends were five per cent. last year.

Q. Do not answer any more than the question; I haven't got to that yet. How much does that make, all told, for bonds and stock, all of which you say are paying five per cent.?

A. Well, eleven million of stock plus sixteen million five hundred thousand of bonds, make twenty-seven million five hundred thousand dollars.

Q. Precisely. Now, you know, do you not, that the output of the Laclede Gas Company of St. Louis, a city of about the size of Boston, has a little less than 3,500,000,000 feet?

A. I have not tried to look up their output and don't know. I wouldn't know any place to look except Brown's Directory for that.

Q. Well, it is about the same as Boston, isn't it? If you have Brown's Directory supposing you look at it, if you think that is an authority.

(Witness consults Brown's Directory.)

Q. I think Brown's will give the total output and not the sales, but what does that give as the total output?

A. Approximate annual output, four billions cubic feet. That is the directory dated 1906, but relating, I suppose, to last year.

3322 Q. Now for purposes of computation, will you not take 3,500,000,000 feet which I think exceeds the amount of the sales, but it is not far from four billion, and see how much that capitalization amounts per thousand of sales on that basis?

A. It amounts to $7.86.

Q. Yes, nearly $8.00.

A. Yes.

Q. That is to say, they pay five per cent. on nearly $8.00 in securities for every thousand cubic feet of sales on this assumption?

A. Yes.

Q. That would be equivalent to about eight per cent. if you followed it up on five dollars capitalization per thousand cubic feet of sales, wouldn't it?

A. Yes, five per cent. of $8.00 is the same as eight per cent. of five dollars.

Q. Well, if you take that eight per cent. rate therefore, and assume $5.00 per thousand feet of sales as the capital, you would get exactly the same result as to the amount of dividend and interest requirement?

A. That is true.

Q. Now, if you take the Consolidated Gas Company's sales of

13,308,000,000 at even $5.00 per thousand feet of sales, that would make between $66,000,000 and $67,000,000, would it not?

A. $5.00 per thousand feet, yes.

Q. Did you take occasion in looking up the market price of these bonds in these various companies to ascertain what relation they bore to the value of the tangible assets of the companies in each case?

A. No.

Q. That is a very important circumstance, isn't it, in determining the safety to an investor of securities which he purchases?

A. Yes, most of these stocks undoubtedly are much larger than the tangible assets, yet they are on a five per cent. basis, which is a greater confirmation of my theory.

Q. But they are on a five per cent. basis on a very large
3323 capitalization in the case of the Laclede Company?

A. Yes; on a legitimate capitalization probably of four and one-half per cent.

Q. And at four and one-half per cent. capitalization on the basis of the Laclede Gas Company, that would be equivalent to a nine per cent. or ten per cent. dividend, wouldn't it, as compared to what they actually do pay on that capitalization?

A. No. I mean capitalization on earnings, not on the stock.

Q. Well, I am taking your own companies and analyzing those.

A. That's right.

Q. Now, taking Exhibit 82 of the present record?

A. I haven't it with me.

Q. I will show it to you. Here it is. Now, in reference to the relation of Stock Exchange sales to dividends, it appears that the highest prices quoted for the Consolidated Gas stock were 241½ in 1887 and exactly the same, 241½, in 1897, is it not, by that table?

A. Yes. That does not mean for the whole year.

Q. No, the very highest quotation ever reached?

A. Yes.

Q. Now, what was the rate of dividend in 1887 when the quotation was 241½?

A. Four per cent.

Q. What was the dividend in 1897 when the quotation was the same?

A. Eight per cent.

Q Just double?

A. Yes.

Q. So there is no special relation between the dividends paid and the market price, so far as that is concerned, is there, in these cases?

A. There is always a tendency to that, but there may be counteracting circumstances.

By Mr. BURR:

Q. Special circumstances?

A. Special circumstances.

3324 By Mr. MATHEWSON:

Q. Well, so far as that is concerned, the quotation is precisely the same when the stock was eight per cent. as when it was four per cent., in those two highest years; is that right?

A. Yes, sir.
Q. Now, in 1891 the stock sold as low as 92½, didn't it?
A. Yes.
Q. And the highest price was 104¾?
A. Yes.
Q. What was the dividend in 1891?
A. Five per cent.
Q. So that in 1891 the stock paid five per cent. and sold for less than par, and in 1887 the stock sold for 241½ although it paid one per cent. less, or four per cent., is that right?
A. Yes.
Q. So that so far as those particular instances are concerned there does not seem to be any fixed relation between the dividend and the market price of the stock at those times, does there?
A. That's right.
Q. Now, will you look at table 18, the table of Cambridge, Fall River and so on?
A. It is on page 3055. It does not seem to be numbered but that is undoubtedly it.

The MASTER: It is numbered on the preceding page.

Q. Now, when you give the dividend paid upon capital, including bonds, per thousand feet in this table, you refer, do you not, to the dividend on the par value of the securities?
A. Yes.
Q. And not the dividend that is paid upon the structural value of the assets, although they may be greater?
A. Certainly. It is the dividend paid upon the stock.
Q. Now, taking $2.52 for Cambridge as capital, you know,
3325 do you not, that some of the Cambridge stock was sold for two hundred dollars a share?
A. I testified, I think, to that effect.
Q. So that would be an addition to the assets of the company which would not appear in this $2.52, so far as the premium on stock is concerned?
A. So far as it applies to new stock issued, that would be true.
Q. My point is that the $2.52 would not adequately represent the structural assets if the stock were at a premium, but only carried into this $2.52 at par?
A. That is, any new stock sold at par, allowed by the Commission?

By Mr. BURR:

Q. What would not be true?
A. It would not be true, to apply the premium to all the existing stock.

By Mr. MATHEWSON:

Q. If you averaged it over the existing stock it would amount to the same thing?
A. Oh, no. The law did not go into effect until about 1894, I think, in Massachusetts.
Q. I understand, but when you take the stock oustanding and the

market value of stock, you get an average value of all the stock outstanding, of course.

A. Yes, but the inference could not be drawn from that that the premium on all the stock represented investment in structural assets. You could only derive that from stock issued under the auspices of the Gas Commission.

Q. Oh, yes, I understand that. Now, when you stated the amount of dividends that are paid in this table 18, and the amount of dividends per thousand feet of capital, you do not refer to the amount of earnings, net earnings, do you?

A. No.

3326 Q. The net earnings of a company might be very substantially more than the amount distributed in dividends, might they not?

A. Yes.

Q. And do you not know that some stocks sell at par even before they pay any dividends at all?

A. Yes.

Q. On the strength of earnings. So that if there is any test of that character, the real test is the amount of earnings that a company is permitted to make rather than the amount which it sees fit to pay out in dividends to its stockholders, isn't it?

A. Not altogether in Massachusetts.

Q. Well, isn't ordinarily the value of the stock based on the amount of earnings which it makes, whether it pays out any dividends or not?

A. So far as that is known to the investor.

Q. Well, we are assuming that the investor knows a thing or two and that he does not buy blindly. Some companies pay pretty nearly all their earnings in dividends, as you know, and some other companies pay perhaps small dividends and put large amounts to one account or another, but their net earnings are just the same and they all go to determine the real value of the stock, do they not?

A. Yes.

Q. Now did you take pains to ascertain what the net earnings actually were in these cases rather than merely what part of the net earnings was paid out in dividends?

A. You mean in these Massachusetts companies or generally?

Q. Well, generally.

A. Generally there was no data available.

Q. Did you as to the Massachusetts companies?

A. Yes, that is, I looked into their reports to the Gas Commission.

3327 Q. On page 3021 and 3022 of the testimony you gave a list of various Massachusetts companies, Lynn, Cambridge, Clinton, and so forth.

A. I don't see any table there.

Q. No, I don't think it was in the form of a table.

A. Well, I think you are correct, pages 3022 and 3023, yes. I was looking for a table.

Q. Lynn, Cambridge, Clinton, and so forth?

A. Yes. I have it before me.

Mr. BURR: Clinton, Cambridge, Lynn, Brockton, Newburyport, Fitchburg, Natick, Malden and Melrose, Worcester County.

Mr. MATHEWSON: Yes, eight companies, were there?

The WITNESS: Clinton, Cambridge, Lynn, Brockton, Newburyport, Fitchburg, Natick, Malden and Melrose, Worcester County. Nine now, I count.

Q. Do you include Worcester County in your computations?

A. I understood you to ask me how many companies I had presented here?

Q. Yes, precisely.

A. I say I count nine.

Q. I ask you now if you included Worcester County in your computation or in your statement in that connection?

A. I made no average. I included in this list, if I recall right, every issue of stock to a gas company in Massachusetts last year.

Q. But the Worcester County Company had no earnings, did it?

A. That's right. Well, it paid no dividends. I don't know about its earnings.

Q. Well, omitting that, and taking the other eight companies, did you take pains to ascertain what the assets of those eight companies were and what their profits amounted to on the assets as permitted by the Commission?

A. No. I did not look into that except as I have in the past looked into some of the larger ones, but in preparing this table I did not especially do that.

Q. If my computation is correct it would show assets of
3328 those companies of about $5,895,499.60, and profits permitted by the Commission amounting to $595,968.12, or an average return upon the assets of all the companies of something over ten per cent.

A. What do you mean, "permitted by the Commission?"

Q. I am using the same term you have used right along that the Commission permits so-and-so.

A. The Commission had no authority except on a complaint by a certain number of consumers.

Q. I understand that. We won't split hairs on that. These companies are under the jurisdiction of the Commission, are they not?

A. Only on a complaint.

Q. They are under that jurisdiction if they are brought before the Commission in proper form.

A. Yes.

Q. Now if it be true that the earnings of all these companies, their profits, were more than ten per cent. on their assets, that would tend to rebut your theory that only five per cent. or six per cent. should be allowed, wouldn't it?

A. Not at all.

Q. Now as a matter of fact, have you taken pains to ascertain how many cents per thousand, of profits, the Massachusetts companies earn over the operating cost of gas? I mean profits applicable to dividends and interest.

A. Which companies?

Q. Oh, the Massachusetts companies generally.

A. In addition to what they pay out in dividends?

Q. No, over the operating cost of gas. I refer now to the number of cents per thousand that they have available for dividends and interest, which, as I put it, the Commission permits them to earn above the operating cost of gas.

A. It varies from thirty to thirty-two cents generally.

Q. Doesn't it average more than thirty cents for the entire State of Massachusetts, taking all the companies?

A. I have not averaged it.

3329 Q. You would be surprised if it did not equal thirty cents, wouldn't you?

A. I couldn't say I would be.

Q. Of course the maximum rate of dividend or return which is fixed must be applied to a successful company, well located, and not to the average company, must it not?

A. Why, if I understand what you mean possibly the most successful companies earn the largest rate.

Q. In other words, the fact that a company, poorly located, may earn only three per cent., or that the average of all the companies in a State may earn only five per cent., would be no reason why you should limit the dividends of an exceptionally successful company to the average rate, would it?

A. I have not argued on that basis.

Q. I understand. I am asking a question, I am not arguing.

A. There is naturally some premium for exceptional skill. I would not take that away. In other words, I should not insist that a company must be allowed to earn good dividends if it was poorly managed or a poor plant.

Q. You referred to Dr. Humphreys' testimony at Holyoke, and to his reference to five per cent. upon the assets. Was not the testimony in that case directed rather to fixing the value of the entire plant and property of the company, including its intangible assets, with a view to their purchase by the municipality?

A. It was a valuation with a view to purchase by the municipality.

Q. It was not primarily a hearing to determine what rate of charge should be allowed for a company which was to continue, was it?

A. No.

Q. And don't you remember that Mr. Humphreys' associate, Mr. Randolph, made an appraisal of the property, and gave the structural value of the property, excluding franchises and good-will?

A. I recall that Mr. Randolph did some work of that char-

3330 acter and that there were structural values presented. I do not at this moment recall the particular work of Mr. Randolph as to distinct matters.

Q. Don't you remember that the earnings with which Dr. Humphreys was dealing represented about ten per cent. on the value of the assets as appraised, excluding the intangible assets?

A. No, I have no recollection as to that physical value.

Q. But you did understand, did you not, that the five per cent. to which Dr. Humphreys referred was five per cent. upon the total valu-

ation of all the property, tangible and intangible, and was not confined to the tangible assets at all?

A. I understood the valuation was based on a capitalization at five per cent. of the net earnings.

Q. A capitalization of five per cent. upon the net earnings?

A. That five per cent. was a fair capitalization and a fair earning on an investment in the gas business.

Q. Did he mean by an investment in the gas business the tangible, structural assets alone or the franchise and good will and value of the established business plus the tangible assets?

A. I don't know what he meant——

Mr. BURR: Well, his testimony is here and speaks for itself.

Mr. MATHEWSON: You have not got in all the testimony or anything like it.

Q. On the record appears this answer, quoted from Dr. Humphreys' testimony at page 3025 of the present testimony:

"I did not go into that very specifically but I am reinforcing my opinion, &c."

Now, the question respecting which the witness made that
3331 answer is omitted from the record or from the quotation as given by Professor Bemis here and is as follows, is it not, Professor:

"Did you in making this value assume that there were any differences in respect to the legal status of gas and electric light companies in Massachusetts and the status of companies in New York and New Jersey, and the other places where you made valuations."

Then there was some discussion between counsel and then followed the answer which has been quoted. Is that correct?

The WITNESS: Yes.

Mr. BURR: Page 3025 is the page where Professor Bemis quoted the testimony as given by Dr. Humphreys in the examination in regard to the Holyoke Company.

Q. In other words, to be brief, the purpose in that inquiry was to find the total value of the assets of the company, tangible and intangible, was it not, Professor?

A. It was to find what the property was worth for purposes of sale to the city.

Q. Referring to the amount paid by the Massachusetts companies upon paper capital, so far as that is of any value at all, it is true, is it not, that many of the Massachusetts companies are paying ten or more per cent.?

A. I have in my hand the last report of the Massachusetts State Gas Commission——

Q. I do not ask you to name them over but simply to reply to the question generally if you can.

A. On page 103-104 where the dividends are given, I find but three companies, namely the Adams, Attleboro and Marlborough, all very small, that paid over 10 per cent.

3332 Q. You find quite a number that did pay 10 per cent., don't you?

A. Yes.

Q. And that is refer-ing to dividends, you understand, in my question, and not to earnings.

A. Certainly. In my table I gave all the large companies, I think.

Q. So that assuming that the companies earned anything more than they paid out in dividends, the earnings on many of these companies must be over 10 per cent.?

A. On that supposition, yes.

Q. And is it not true, too, that some of the English companies under their method of supervision pay ten per cent. on their paper capital?

A. I am not prepared just now to say what they are. I have not yet gone into that particularly.

Q. Does it not appear by the reports of the Committee of 1886, that the South Metropolitan Company of London was then paying twelve per cent?

A. I don't recall what it stated.

Q. Page 655.

A. Mr. Mathewson, I shall not dispute the accuracy of your quotation if you state as a matter of fact that it is in there.

Q. I will merely ask you to correct me, if I am wrong if you are willing to leave it that way?

A. It is a mere matter of a quotation appearing in a report twenty years ago, and if you are reading from it I have not any reason to doubt that you are reading it correctly.

Mr. BURR: Did it not further state that they were selling gas at 75 cents?

Q. In many of these cases in which you testified that stocks and bonds were selling on a five-per cent. basis, it appeared, did it not, that the price of gas was well over a dollar?

A. I never looked into that carefully, but I do not believe, and I know most of these companies off-hand, I do not believe that
3333 the price exceeded one dollar in more than one-tenth of the companies selling over one hundred million feet, but it certainly only exceeded a dollar in a very few cases and it was less than a dollar in some of them.

Q. That answers my question.

A. Lowell and Lynn is 90 cents and Boston is 85 cents, and I quoted Chicago. That is 85 cents, too.

Q. You testified in Boston, in December, 1904, or about that time and advocated there a six-per-cent. rate, didn't you?

A. I don't remember what I suggested, but six per cent. has been the usual rate that I have suggested for quite a while.

Q. Can you remember whether you advocated a six-per-cent. rate in Boston or not?

A. Absolutely I don't remember, but if you find it there I do not doubt it.

Q. I do find it there, and you say you represented the city on that occasion as well as another interest.

A. Yes.

Q. Are you not aware that when Mr. Morse referred to the six-per-

cent. rate and proposed to go into a discussion of that and the propriety of a six-per-cent. rate, Mr. Babson, the attorney for the city for which you were acting, said that he would not argue that at all.

A. I don't remember about that.

Mr. BURR: Does he say why?

Mr. MATHEWSON: Obviously, because he does not consider that it was fair.

Mr. BURR: No, that is not obvious at all.

Q. Will you look and see whether Mr. Babson, the attorney for the City, said that he would not argue that at all?

A. On page 602 of the record in this case I find a question from Mr. Mathewson to that effect.

3334 Mr. BURR: And Mr. Morse added, "I don't know that you will, but I think somebody is going to argue it in this case."

Mr. MATHEWSON: Mr. Babson was the attorney for the City for whom Mr. Bemis was testifying there.

Q. Is it not a fact that the Committee of the Legislature of Massachusetts as late as 1900 referred to the ten per cent. maximum up to which a company might be permitted to earn if it could, as recognized by custom in Massachusetts?

A. I don't recollect.

Q. You do remember, don't you, that in the investigation in 1900 by the Legislature the question arose of bringing the New England Gas & Coke Company, to which I have referred (I think I have referred to it heretofore as the New England Coal & Coke Company), under the wing of the Commission, although that company manufactured gas but distributed none; and the Committee of the Legislature in Massachusetts, House Document No. 1405 of that year, referred to the propriety of that action; and will you look at this document which I show you and say if the committee in that connection did not say in substance that in that event they would be compelled to allow the New England Gas & Coke Company to pay "not exceeding, of course, the ten per cent. heretofore recognized by customs," at the bottom of that page?

A. This report of the Committee on Manufactures, dated June 11, 1900, stated as you read, as follows: "The enactment of any law which will place the New England Coke Association under the control of the Board of Gas & Electric Light Commissioners as the New England Gas & Coke Association at present exists, without first compelling it to incorporate, will be a legislative sanction and
3335 approval of its $35,000,000 securities and it would compel the Board of Gas & Electric Light Commissioners for all time in arriving at the cost of gas to reckon and allow all charges, interest or dividends that the New England Gas & Coke Association chose to pay upon the $35,000,000 of securities, not exceeding of course the ten per cent. heretofore recognized by custom." That is the quotation but it is an incorrect statement of the practice of the Commission.

Q. That is the report, is it not, of the Committee of the House of Representatives of the Comonwealth of Massachusetts, which was investigating this very subject in 1900?

A. Yes, but it is a wrong statement of the facts.

Mr. BURR: And you dispute its conclusion as the conclusions of the Stevens Committee are disputed here by the Consolidated Gas Company?

The WITNESS: Yes. No ten per cent position has been taken by the Massachusetts Gas Commission.

Q. Don't you know that the Massachusetts Gas Commission permits a well regulated, successful and well located company to earn as high as ten per cent. if it is able to do that?

A. It will and has reduced it below that when cases have been brought before it. It has no right to initiate proceedings.

Q. In any case where it does not believe ten per cent. can be earned, total net earnings upon the structural value of the property?

A. They have reduced prices so as not to leave ten per cent.

Q. Will you name the cases that you think they did?

A. I have not them in mind at the present moment.

Q. Now, a lot of English companies pay ten per cent. dividends, don't they?

3336 A. That applies to some companies for their original stock issued many years ago.

Q. But a lot of them have that ten per cent., have they not?

A. I don't remember how many. There are some.

Q. Well, say a lot, put it generally; that is about right, isn't it?

Mr. BURR: What do you mean by "lot?"

Mr. MATHEWSON: Let the professor put his own construction on it.

A. I don't know. I know there are a number. There are a good many but just how many I don't know.

Q. I will simply read from the Syracuse testimony on that subject—A. A good many of the older companies.

"Q. In England how much are companies allowed to earn on the capital paid in 1887? A. I don't know.

"Q. Did not your investigation extend to them over there? A. A lot of those companies had ten per cent., but I don't know that there is a law for all of them."

A. Yes.

Mr. BURR: Which page?

Mr. MATHEWSON: Page 2942 of the Syracuse testimony.

The WITNESS: It is simply a vague expression. I meant to say that a good many of them do.

Q. And seven per cent. after that time?

A. But there is an option clause in all of those.

Q. And seven per cent. afterwards in all of those?

A. Seven per cent. with the option clause. The actual earnings on the actual stock is much below what those figures would indicate.

3337 Q. But not below the actual earnings on the assets, is that right?

A. What?

Q. But not below the actual earnings on the assets, is that right?

A. I don't know what you mean by actual earnings on the assets.

Q. I mean the actual earnings as applied to the assets, the value of the assets, to get your per cent.

A. I cannot say as to that.

Q. I will just read a little more from the Syracuse testimony:

"Q. Wasn't ten per cent. prior to 1887? A. Not for all companies.

Q. And seven per cent. after that time? A. I think that relates to a certain class of companies.

"Q. Will you testify positively that that was not the fact as to all the companies there and the sums allowed during those periods? A. It may be. I am not sure. There are many companies that have that——"

That is all on that subject so far as I can see. Do I quote that correctly, Professor? (handing book.)

A. I believe you do.

Q. Are you also familiar with the fact that the Senate Committee of 1886, Senate Document 47, recommended ten per cent. as a maximum rate for the earnings of this Company, with a further allowance of a reserve fund to accumulate until it equalled ten per cent. of the capital?

A. I don't remember it now. Ten per cent. twenty years ago is quite different from that now.

Q. Perhaps not, if you put most of your money in twenty years ago on that basis. What did you allow the Syracuse Company in your recent testimony up there as a return upon capital?

A. I think I gave them on different bases showing——

3338 Q. What did you allow them finally?

A. I don't remember.

Q. Can't you remember? That was inside of a year?

A. Yes, but I have had so many figures to deal with and other matters that I am not carrying them in my head. When I get through with a case I try to dismiss it from my memory and think of something else. My impression now is that bearing in mind the decision of the New York State Gas Commission for eight per cent. in New York City, I made an estimate on an eight-per-cent. basis in Syracuse, in harmony with the eight-per-cent. basis used in the decision by the Gas Commission for the City of New York.

Q. Well, did you allow 8 per cent., put it in that way?

A. No, I never intended to, and I remember having conferences with the attorneys in which I said 6 per cent. was sufficient, but I think I made an estimate on the witness stand of what 8 per cent. would amount to.

Q. I read this from page 2936 of the Syracuse minutes, testimony of Prof. Bemis, referring to another subject in the first part of this question:

"Q. And therefore struck out as compared with 100 years. Well we will pass that. You allowed us 8 per cent. dividends, did you not? A. Yes."

A. That means, allowed in the computation I made. I made a computation as you will find on some previous pages.

Q. You did make a computation there in which you allowed 8 per cent.?

A. Yes.

Mr. BURR: Just as you have here.

The WITNESS: Certainly, I have done so in this case.

3339 Q. And that is what you meant when you said you allowed 8 per cent?

A. Yes, you will find I have done that in one of the tables here.

Q. And the Gas Commission to which you have referred as allowing 8 per cent. allowed that after they heard your testimony in which you recommended a six-per-cent. basis, didn't they?

A. Here in the city, yes. I used 6 per cent. in Chicago and Montreal, I remember.

Q. Did you not find in the testimony of the Stevens Committee with respect to which you have spoken, the basis assumed by Mr. Hughes in his question as to return was an eight per cent. basis?

A. I don't remember.

Q. Did you not observe that he asked the witnesses what the earnings would be on the various capitalizations at eight per cent.?

A. I don't remember.

Q. Professor, in some cases you have referred to the question of candle-power marked disapproval of a candle-power as high as 22, have you not?

A. Yes.

Q. And you have advocated an 18 candle-power?

A. Yes.

Q. You are still of the same view, that an 18 candle-power, all things considered, is better for all concerned, are you not?

A. Yes.

Q. And if the public wants a 22 candle-power or some higher candle-power, it is for the public to pay for the additional cost?

A. Of course, it must do that.

Q. Let us refer now to the cost of the properties of the Consolidated Gas Company on the basis which you have advanced. You say at the outset that you took certain figures of Mr. Yalden, the accountant for the Committee of 1886. Mr. Yalden was an accountant only and not a practical gas man, was he not?

3340 A. The evidence so far as I am aware, brought him in as an accountant.

Q. Are you aware that he had anything before him except the books of the constituent companies from which he made his report?

A. I think he went back to vouchers and pay rolls.

Q. Well, have you any evidence that he did so except the testimony before the Commission of 1886?

A. I have nothing except what is in that testimony.

Q. You found that these companies which consolidated in 1886 forming the present complainant, had many of them been paying large dividends, didn't you?

A. Yes.

Q. Very prosperous companies, apparently?
A. Yes.
Q. And you found the statement of the Committee of 1886 was that, except so far as the franchises were concerned, the property in 1884 appeared to have been appraised at simply its cost of reproduction?
A. They said that Mr. Yalden's figures were in contradiction of that. They also said——
Q. Did they say anything more than this, that the only evidence against the value as fixed by the appraisal of 1884 being fair was the fact as reported by Mr. Yalden, that the properties or some of them were appraised at a higher figure than they appeared to be charged on the books of the constituent companies?
A. Yes.
Q. That was substantially what the Committee said?
A. Yes, and in that they did not correctly quote the evidence.
Q. You think that the Committee of 1886, who had all these witnesses before them and went into the subject for an entire year, did not know what they were talking about?
A. Right in black and white there is proof to the contrary.
Q. You draw deductions from the evidence contrary to
3341 the Committee of 1886, do you?
A. There is evidence——
Q. Well, do you?
A. Yes.

Mr. BURR: You are speaking of the majority report?
Mr. MATHEWSON: Yes.

The WITNESS: Yes. The chairman reported differently.
Q. Did you find in the report of the majority of the Committee so far as the franchises were concerned, which were appraised at $7,781,000, the statement that the franchises of four of the companies alone were worth more than the entire $7,781,000?
A. I don't remember about that.
Q. Did you observe that the assets of the Knickerbocker Company, which was under lease to the Municipal Company at that time, were not carried into this $20,942,000 total which Mr. Yalden reported, except only to the extent that the Municipal Company had made expenditures on the Knickerbocker plant?
A. My impression was that all the assets were carried in, that is the way I understood Mr. Yalden's report.
Q. Don't you know that the Knickerbocker Company had outstanding something like $1,200,000 of bonds when it was leased by the Municipal Company and that no assets were carried into this total at all representing this $1,200,000 of bonds?
A. I did not gather that any assets were omitted by Mr. Yalden.
Q. You understand, do you not, that the Act of 1884, under which the Consolidated Company came into being, provided that the constituent companies might consolidate at the aggregate value of their property, franchises and rights at that time, and not upon the basis of original cost?

A. While I have read the report, at the moment I don't
3342 remember its exact wording.

Mr. BURR: But the Act Mr. Mathewson is referring to is in evidence and speaks for itself.

The WITNESS: I don't remember the exact language.

Q. Don't you remember the statement of the Committee of 1886, in their majority report, that there was no great complaint as to the valuation of the tangible property which was valued at $29,994,000 at that time, but that the main complaint was that the company had capitalized its franchises at $7,781,000?

A. They made a remark along that line, but with the reservation that Yalden's figures were different, and they did not correctly quote, as I said, the testimony.

Q. Their reservation was, was it not, that Yalden's figures, as derived from the books, showed, or tended to show, that the costs of the properties originally were less, is not that a fair statement?

Mr. BURR: The report is the best evidence.

The WITNESS: The report had better be quoted here.

Mr. MATHEWSON: Yes, but the Professor has been referring to the report from time to time in his testimony and I am very briefly testing his understanding of it. That is my last question on that subject.

The WITNESS: My recollection is that Mr. Yalden was the one they quoted as having given different figures for the cost of the plant.

Q. You don't find in your examination of the testimony, do you, that any witness was called who purchased or acquired for
3343 any one of the constituent companies, any item of their assets and testified as to what the cost was?

A. There was no purchase that took place.

Q. By the constituent companies was there not?

A. There was simply a consolidation.

Q. Do you mean to say that the six constituent companies never purchased any property?

A. I thought you meant that the Consolidated Company—purchased from the constituent companies.

Q. There again you misapprehend me. Did you find any evidence presented, any witness appearing aside from the books to testify what the cost of the assets of the constituent companies was or anyone of the asset-?

Mr. BURR: Do you mean their original cost?

Mr. MATHEWSON: Yes.

A. No witness except Mr. Yalden.

Q. But he proceeded on the books and records?

A. Yes, and he was backed up by the president of the Mutual.

Q. And besides that, no witness appeared to testify what the original cost of these items was.

Mr. BURR: Except Mr. Kennedy.

A. Mr. Kennedy testified as to his faith in Yalden's report.

Q. Oh, yes, but can't you answer my question?

A. There was no other witness, neither was there anybody that disputed it.

Q. Did not the Committee in substance say that the value in 1884 was the basis upon which the companies were entitled to capitalize, and did not the majority of the committee therefore fail to go into the question of cost at all? Now give me a fair answer.

A. The majority took that position, two members taking
3344 one position and the Chairman taking the other.

Q. We lay greater stress on majority reports than we do on minority reports.

Mr. BURR: The minority report took the contrary view and gave its reasons *in extenso*, which are in evidence in this case.

Q. Now let us look at Table 15 for a moment, entitled Cost of the Gas Properties up to October 31, 1905:

A. Page 3046?

Q. Yes. Now in starting this off you say, cost in 1884, $20,942,632.85?

A. Yes.

Q. That is the amount, is it not, which Mr. Yalden reports as the property being charged as costing on the books of the six constituent companies, or the figure at which it appears as carried on the books of the companies, if you please?

A. Yes.

Q. To that you add net increase from 1884 to October 31, 1905, $9,693,565.90?

A. Yes.

Q. From what time in 1884 did that increase accrue?

A. I think it was November 11.

Q. Don't you know that between the appraisal of June, 1884, and November 11, 1884, there was an addition of nearly two hundred thousand dollars to the assets of the Consolidated Gas Company, which you have omitted entirely?

A. Perhaps there was that amount. I remember there was some such amount.

Q. Suppose you look at Exhibit 71 of the present record and see what the amount was that you have omitted here?

A. $196,419.01.

Q. Well, then, so far as this is concerned upon your own theory, there should be added $196,419.01, should there not?

A. Mr. Yalden's report was of June instead of November. I have forgotten which it was. If you say Mr. Yalden's estimate
3345 was of the earlier period then that should be added. May I ask if it was?

Mr. KIRBY: That is right. It takes two figures. The first one was the one stated here and the next was the addition of that amount.

Q. My understanding of his report was that $20,942,682.45 covers the same property appraised by Mr. Rowland at $29,994,000, and that was of June, 1884.

A. With that understanding this $196,000 should be added.

Q. Now that would make a total of about $31,450,000 in round figures, would it not?

A. I get it $31,449,087.84 or roughly, $31,450,000.

Q. Now you have deducted from this total the item: "Less value

of the property taken by the city at 18th Street and other property sold by the Company given in the testimony of Prof. Marks, page 2364, $1,985,874.37." The figures that Prof. Marks took were the present value of the land and other items which he deducted, were they not?

A. I think it was.

Q. Don't you know, if you have read his testimony, the figures he took were the present value of the land which we now value at $15,000,000, but which you valued according to the report of 1885 at only about five million dollars?

A. I think this was based on the sale to the city, which of course, is present value.

Q. Let me ask you if this is a fair way to make the comparison, to take the value according to Yalden in 1884 which included land, as you have stated at about $5,000,000, and deduct therefrom property which has now been disposed of, at the present land value, which is three times that according to our testimony?

A. Certainly, I think it is fair.

3346 Q. You do?

A. Yes.

Q. In other words, while the same land went into the $20,942,000 at, we will assume, $600,000—you could pick it out—you think it is fair now in making this deduction to take out one and one-half times that, do you?

A. Provided it is sold for that. I am not taking out a theoretical valuation, I am assuming the company is to get this money for it.

Q. And you think it is fair to take out the present value of the land from the original appraised value, do you?

A. I think if the company paid $5,000,000 for land and subsequently did not require the use of a million dollars of that land, and could sell it for $4,000,000, that $4,000,000 cannot be capitalized, but should go into the business as providing for extensions.

Q. Does it not go into the pockets of the stockholders, if it is the surplus upon the capital?

A. It is part of the earnings that tend to make up the legitimate six per cent. I have said this morning that the unearned increment does not belong to the stockholders.

Q. It does not?

A. It is part of the earnings of the company, but I should not give it in excess of the six per cent.

Q. Supposing a company has assets of one million dollars, a part of which is land; supposing that land increases so that its assets are worth one and one-half million dollars and the company winds up; does not the entire one and one-half million dollars go to the stockholders?

A. Yes.

Q. Supposing the company was able to dispose of part of its land and obtain two hundred and fifty thousand dollars for it, and still had its entire capital of one million dollars intact, would not that surplus go to the stockholders and be divided among them, and if not, why not?

A. My understanding of it is that would not be allowed in Great Britain.

3347 Q. Well, we are talking about New York City, and good fair business judgment.

Mr. BURR: I think you are under a misapprehension, we are not deducting the present value, we are deducting the present price which you have received. This is money you actually received for the land.

Mr. MATHEWSON: No, we have not received it, and whether we will receive it or not, Heaven only knows, because the city has condemned this property and they have not yet paid us. But that is another proposition.

Q. Assume that we have obtained for that land one million dollars and that we still have land upon which we are still manufacturing gas to supply our consumers, and having taken that million dollars and distributed it to our stockholders, our capital is still intact, are we not entitled to distribute that to our stockholders?

A. I don't think so.

Q. What should be done with it?

A. To be used in new construction as you need it.

Q. So in getting at the present value of property you would take land appraised or carried on the books in 1884 at five million dollars, making part of a total; you would then deduct from that the land which was disposed of now at three times the price, three times the amount at which that particular land was carried in Yalden's figures of 1884, and you think the balance would be a fair balance?

A. Certainly. I don't think you are entitled to more than six per cent., you are not entitled to the unearned increment on the rise of that value of that land.

Q. Did you not testify before the Gas Commission in response to my question that if a company had a surplus in the value

3348 of its land, it was entitled to divide that among the stockholders and that it belonged to the stockholders and did not belong to the consumers of gas?

A. I don't remember.

Q. I suggest that you look them up, professor, for unless my recollection is at fault, and it is not often on those things, you will find my statement is right.

A. But if I did say it, I should say I was mistaken. But I don't remember saying it.

Q. Now, I am going to put another question to you. We will suppose here is a company in the gas business that proposes to go out of the gas business in a certain city; it has land which is then worth a million dollars, but which cost it seventy-five years before, five hundred thousand dollars; of course if it goes out of the gas business it can sell its assets, distribute the assets among its stockholders and go out of business, can it not? In other words, it is not obliged to distribute any part of those assets to the consumers of gas, is it?

A. I should think it could go out of the gas business and wind up, I should think so.

Q. And its assets should be so distributed to its stockholders and not to anybody else after the payment of debts?

A. I should think so.

Q. Now, we will assume that another company proposes to take the place of this company in furnishing gas to that community and it buys land equally well located for the purposes of its gas plant, a prudent investment, and has to pay $1,000,000 for its land, because that is the market value. Would not the company in having a price fixed which it might charge for gas, be entitled to a computation of a return upon $1,000,000 which it thus prudently expended in land?

A. I think so.

Q. And supposing that this successor company that intended to go into business bought this very land of the company which
3349 was going out of business and paid $1,000,000 for it, it would then be likewise entitled to count its land as $1,000,000 in computing its capital upon which it was entitled to a return, would it not?

A. I doubt it.

Q. In other words, if this new company going into business saw fit to buy its land from some third party and pay $1,000,000 for it, it could include that $1,000,000 as part of its capital upon which it would earn return, but if it bought equally good land from the company that was going out of business at $1,000,000 it could not include the $1,000,000 in its capital for return. Now, that is your statement. Is that what you want us to understand?

A. I will modify it to the extent that I have not perhaps thoroughly settled on this question of what would happen in that particular instance. But I answer positively that if a new company bought the old one out, as a going concern, it would not have the right to capitalize any of the price it paid for the old company but only could continue to earn on the original structural assets. That was tried in Haverhill and the Massachusetts Gas Commission ruled it out.

Q. And that is still at issue and the courts have not decided it yet?

A. Yes.

Q. Then the proposition is this: While the new company might purchase land and pay a million dollars, equally well located, from a third party, then that would be part of the capital upon which the new company would be entitled to earn, yet if it bought land for a million dollars from the old company for the same purpose, the old company going out of business, then it would be doubtful whether it would be entitled to include that million dollars in its capital?

A. I will not take a positive position on that question. When the old company goes out of business absolutely and ceases to
3350 exist, I am not positive, but when the old company is bought out as a going concern, then I am positive as to the land. Of course the most of the Haverhill case related to improvements and not to land.

Q. Take this position. If, then, the new company buys land from a third party for a million dollars and goes into the gas busi-

ness it is entitled to a return on that one million dollars, and perhaps it is if it buys the land only from the old company at a million dollars, but does not buy out the old company as an operating concern; but the old company, if it continues in business and uses that same land of the same value, would not be permitted to include a million dollars as part of the capital upon which it would earn, is that your proposition?

A. Yes, as long as it is in the business of gas manufacture it cannot recapitalize its land value. If it goes out of business and winds up, then I think it would be entitled to what it sells the land for.

Q. You feel pretty sure about that, don't you, Professor?

A. Yes.

By Mr. MATHEWSON:

Q. Let me proceed a step further, Professor. The new company if it laid its mains under an existing pavement, which we will assume is new and improved pavement, would have to expend, of course, the cost of reproducing the mains under the present pavement?

A. Yes.

Q. And if they did that they would be entitled to a return on that amount as part of their capital?

A. Yes.

Q. Whereas if instead of doing that, there being no collusion, they purchased from the existing companies the mains of the existing company, at a little less than the cost of reproduction, just a little less, not much, they then would not be entitled to include
3351 the mains which they had so purchased and add the cost to the new company as part of the new company's capital upon which it might earn. Is that right?

A. Before I answer that let me ask you what your further supposition is as to whether the old company continues in business or not.

Q. I will assume that the old company went out of business.

A. I would say that the new company might be justified in recapitalizing the expense that it was put to, to get possession of these mains, provided it did not pay more than they could be duplicated for; but I say that if it bought out the old company as a whole, as a going concern, it could not increase its capitalization because of any money it paid in excess of the original cost of those mains.

Q. It might wait until the old company was out of business and buy in detail perhaps.

A. Gas Companies are too prosperous to go out of business.

Q. Not all of them.

A. They are in large cities.

Q. And the same theory would prevail as to all the other classes of assets of the old company, would it, as acquired by the new company?

A. Well, I have made a disinction between pavement and land one the one hand and other structural assets on the other, so I don't know just what is implied by your new question.

Q. I will put this question. Supposing all the assets of the old

company would cost to reproduce now ten million dollars, and suppose it is going out of business and a new company is organized by other parties to take up that business. The new company has the option of reproducing a plant of ten million dollars, but it meets the officers of the old company and the old company says "we will sell you this plant, all of it together as it exists to-day, for nine and a half million dollars and make a discount." Now your proposition is, as I understand it, that if the new company bought
3352 out the old company in that way for nine and one-half million dollars, it could not include all of that as part of its capital upon which it was entitled to a return, whereas if it put in its new plant for ten million dollars it would be entitled to count that ten million dollars as its capital upon which it was entitled to a return, and if you think that is so, where does the advantage to the consumer come in by compelling him to put in a ten million dollar plant where he could get one for nine and a half million dollars?

A. If the old company is still in business and is bought out for $9,500,000 that cannot be an excuse for increasing the capitalization. But if the old company has actually disappeared from the field as a gas producing enterprise, it would be like what I've said as to the mains or the land.

Q. It would be to the advantage of the public, would it not, that the new company should acquire the entire plant of the old company at $9,500,000 rather than put in a new one in its place for ten million dollars, assuming them to be equally efficient?

A. I can see some reason for that position.

Q. Now referring to Table 15, respecting which we were speaking at page 3046 of the record, the $196,000 is not in the table. Is there any working capital in that table?

A. No, I put that in in the next table, or the second table after it.

Q. Except the materials and supplies of $616,470.08?

A. Yes. You will find, in the next table 16, the million dollars for working capital.

Q. I am referring now to Table 15?

A. No, it is not in there.

Q. Is the property of the National Coke & Coal Company included there?

A. No.

Q. Why not? The income of the National Coke & Coal Company you took as part of the miscellaneous income and took that out the operating cost of gas in order to reduce the cost, and
3353 if you do that, how can you fail to include the National Coke & Coal Company in the capital?

A. Well, it was only $50,000 capital in all.

Q. It is not a question of amount, it is a question of consistency. Now, there is Table 11, in which appears as part of the $177,710.53, miscellaneous income, the following: "Dividends of National Coal & Coke Company, $5,000." That makes part of that total. Now, how can you deduct the income from the National Coke & Coal Company from the cost of gas on the one hand and exclude the investment in the National Coke & Coal Company from the capital of the Consolidated Company on the other?

A. It is possible that I could not. I may be mistaken, but I rather think I should have excluded that $5,000.

Q. Should you have excluded the $5,000 in miscellaneous income, or should you have included the investment in the National Coke & Coal Company in the capital of the Consolidated upon which it may earn a return?

A. I rather think I should have excluded it. It is another company altogether.

Q. But you understand that the testimony is that it is really the cartage department of the Consolidated, and didn't you read in this testimony, if you have read it through, the statement of Mr. Gans, one of the counsel for the State, that they claim that the National Coke & Coal Company is part of the capital of the Consolidated and accordingly its returns should be credited in the cost of gas?

A. Yes, I think I have read such testimony. I am not able to say whether you quote it with absolute accuracy or not.

Q. I am trying to be substantially accurate.

Mr. BURR: Mr. Mathewson quotes it as a statement which he claims was made by counsel for the State.

3354 The WITNESS: I will say that I do not recollect the testimony, except this, that there was a claim that the National Coke & Coal Company was owned by the Consolidated Company. I do not recall much beyond that, save an exhibit as to their operating expenses and dividends.

Q. And of course this Table 15 does not include either the values of the company's franchises, does it?

A. No.

Q. Nor the value of the good-will or of an established business which forms part of the value of a going concern?

A. It does not include good-will or franchise value.

Q. Nor does it include anything for the Astoria investment, does it?

A. It does not.

Q. You remember the amount expended at Astoria, on June 30 last, was testified to be $7,710,000?

A. I don't remember the exact figures. They are not very different, from my impression.

Q. Nor does that include any part of the $5,500,000 or such matter that Professor Marks allowed for additional capital as producing a portion of the gas which the Consolidated Company is now selling, does it?

A. No. I don't think it necessary since this company was buying its gas and paying for it, to put in addition a return on the capital which the New Amsterdam Company, or the Standard or the Central Union were employing.

Q. You know the contracts that provide that gas shall be delivered to the Consolidated at the bare cost of labor and material plus ten per cent., which ten per cent. ordinarily amounts to three cents, or in that vicinity?

A. Yes. I am aware of those contracts.

Q. And that three cents is not a very heavy return on the capital invested and producing, is it? Three cents per thousand feet?

A. No.

3355 Q. And you hadn't thought whether that arrangement was temporary, awaiting the completion of the Astoria plant only or whether it would be possible to make a permanent arrangement of that kind, had you?

A. I understood the company to say that the majority of the stock of those companies was controlled by the Consolidated.

Q. They are entirely distinct concerns operating with other stockholders, and the trustees and the directors must protect the minority as well as the majority. But didn't it occur to you that it might not be possible to continue indefinitely procuring that gas at the mere cost of labor and material, with only three cents over to represent return on capital investment?

A. You brought that up.

Q. I ask if that did not occur to you, as to whether that could be continued indefinitely?

A. I had observed that there was no testimony on the subject so far as I could recall. I thought it——

Q. Now you said at page 3050 that you exclude two million dollars due from consumers and that that "might be considered as a surplus." I think your statement that that "might be considered as a surplus" may occur on a later page. What did you mean by that expression, it "might be considered as a surplus."

A. Why, it did not seem to be covered by the amount covered by previous exhibits of extensions, new construction, since 1884, and it seemed to have been undivided profits. It was not in the 1884 appraisal and is in this appraisal.

Q. Do you mean to say that the amounts due from consumers are necessarily undivided profits?

A. I mean to say by that growth of assets. It is an asset of the company as a growth, for there was scarcely any of it, if I recall, in 1884; that the growth of that amount due to the company was one of the profits of the last twenty years.

3356 Q. Don't you know that if you have sales of thirteen and one-half million feet per annum and send out bills monthly and collect promptly, you still would have outstanding in accounts receivable something like $1,100,000 all the time?

A. Well, it wasn't anything in 1884?

Q. But don't you know that?

A. Why, I think so, yes. That is, it depends on how you send the bills out.

Q. Does that mean that is surplus of profits merely because you have that amount due to you?

A. It is part of your profits and if you began in 1884 with an arrangement of some kind, under which you were not credited with anything of that kind, and now in the course of twenty years you have two million dollars that you did not have to start with, I would say that that was a profit.

Q. But we haven't it. It is money due.

A. Yes, but there wasn't any money due in 1884.

Q. Don't you understand if the company has a million and a half or two million dollars of money out in account receivable that the probability is it has to secure funds at some other point to carry itself? Isn't that ordinary experience?

A. I think the million dollars adds that working capital.

Q. That is your view?

A. Yes.

Q. You have never managed a gas company, I understand, and especially one of the size of this one?

Mr. BURR: I think you asked that question before.

Mr. MATHEWSON: I think it is quite obvious, perhaps.

Q. Now in case the company does require a larger amount of working capital than a million dollars, adjustments being made, that would be allowed?

3357 A. If it required it, although I am not sure how it would be financed. If it requires that—I will say yes. I will leave the question answered for the time being as I did a minute ago. I may return to it, but I will leave it now.

Q. Did you not read the testimony of Professor Marks which showed that these typical Massachusetts companies which he selected, even excluding notes payable, had a working capital of thirteen cents, which would amount to $1,726,000, as he computed it?

A. I remember reading over his testimony very hastily, about 13 cents, but I don't remember dwelling on it at all.

Q. Don't you remember that your attention was called to the fact that the notes payable were treated as capital by the Massachusetts Gas Commission, and that making that correction in his testimony these Massachusetts companies which he considered typical, showed 47.8 cents per thousand feet, or something more than $6,000,000?

A. I remember there was a long discussion on it but I had so much else to attend to and since I was not going to refer to the Massachusetts companies in that respect, I left that for him to treat.

Q. I understood you had read his testimony with great care and you collected certain figures from Professor Marks' testimony?

A. Some portions of it I read with far greater care than others. I have been limited in time and strength.

Q. Well, if the figures to which I have drawn your attention are sustained by the operations of these Massachusetts companies that would tend to negative your theory that only $1,000,000 is required, or something like seven cents, for working capital per thousand feet, wouldn't it?

A. If the evidence tends to establish it would be two or three million, of course, I would accept it.

3358 Q. In other words, what is required we are entitled to add?

A. Certainly.

Q. You in your testimony here, in your computations, under the heading, "Capital, including bonds, per thousand sold" did include the notes payable in Massachusetts?

A. Referring to the testimony in Boston?

Q. No, to your schedules that are here presented, such as table

No. 18, "Cambridge, ten per cent., $2.52," the $2.52 being under the caption "Capital, including bonds, per thousand sold?"

A. Including bonds, yes.

Q. You understand, do you not, that the notes payable are included in that $2.52?

A. Well, I took it just the way the heading was in the Gas Commission's report.

Q. Haven't you made a careful enough study of that report so that you know whether notes payable are included under the heading, "Capital including bonds per thousand feet sold?"

A. I took that table direct from the Commission without stopping to go back to the Appendix to see how they made it up. I didn't verify that table.

Q. So you don't know whether it includes notes payable or not?

A. No, I suppose it included all that the Commission considered was rightful capitalization, but just what the Commission considered in making up that table, I didn't have time to investigate.

Mr. BURR: There is a note to that table, as follows: "(1) There are no bonds, but the above item includes 22 cents per thousand feet sold of notes payable unsecured."

Mr. MATHEWSON: Yes.

3359 Q. Now, I will direct your attention to table No. 16, appearing at page 3052 of *your* present testimony, and table 17 immediately following it. As to the first basis of capitalization used, $29,266,757.48, that is identical, if I am correct, with the capitalization of table 15, which we have just discussed, is it not?

A. Yes.

Q. And that excludes the $196,000 of increase between June and November, 1884, the entire Astoria investment, all working capital except $616,000 of material, the stock of the National Coke & Coal Company, the franchises and the good will?

A. Table 16 has the million dollars for working capital additional included, which you did not mention.

Q. Yes. With that exception, all the items to which I have just referred are omitted in this $29,266,757.48?

A. Yes.

Q. And in the $40,500,454.99 there is excluded the Astoria investment, the entire working capital except the $616,000 of material, and the investment in the National Coke & Coal Company and the franchises and good will?

A. That's right.

Q. And in the $49,281,454.99 there is excluded the Astoria investment, the National Coke & Coal Company investment, all working capital except one million dollars?

A. That is excluded, too.

Q. That is excluded, too. Very good. All working capital. Now——

A. Well, the $616,470.08 is in there.

Q. All the working capital is excluded except the $616,000 of material?

A. Yes.

Q. Now, in order to be quite fair, I am going to take the rate of return which the Gas Commission found was fair and the cost of gas that the Gas Commission found and see where we come out. The Gas Commission reported the cost of gas to be 62.56 cents did they not, if you remember, including the 1.81 cents for the addi-
3360 tional two candle power?

A. I think that was the figure. I haven't it clear in mind.

Q. Now, at eight per cent. you figured the profit on the $29,266,757.48, which is your smallest amount, at 17.6 cents; or if you include one million dollars of working capital, which would make $30,266,757.48, you figure it at 18.2 cents per thousand feet, do you not, at eight per cent.?

A. That is 17.6 cents and 18.2 cents; that is right.

Q. Now, if you add that to the Gas Commission's finding of the cost of gas which did not include any allowance for reserve at all, you will find what total?

A. 80.76 cents.

Q. And if you take your second amount of $40,500,454.99, eight per cent. on that would be 24.4 cents, according to your table?

A. Yes.

Q. And that added to the finding of the Gas Commission as the cost of gas, would make how much?

A. Adding that to 62.56 cents, would make 86.96 cents.

Q. And taking the final amount of $49,281,454.99, eight per cent. on that you compute to be 29.7, do you not?

A. Yes.

Q. And adding that to the cost according to the Gas Commission, what is your total?

A. 92.26 cents.

Q. So that with no reserve whatever included in the cost of gas, and with these various capitalizations shown in table 16, excluding the various items which the Consolidated Company claims should be included, and which I have recited in every case, the return on the capital at eight per cent. upon your assumed amounts would exceed the 80 cents which the present act provides, if added to the cost of gas as *b*ound by the State Commission?

3361 A. On those suppositions. It is a mere matter of computation.

Q. Yes, that is true, is it not, on those computations?

A. Yes.

Q. Now, in table 17 your operating cost so called does not include in any case any three cents for reserve, does it?

A. No.

Q. Or anything else for reserve?

A. It assumes that 10.89 cents which is the average of the last twenty years is sufficient. There is some renewal in it.

Q. It takes the actual expenditures for renewals and repairs for twenty years and averages the actual expenditures?

A. Yes.

Q. With nothing added for reserve or contingencies to your average?

A. Yes, that's right. That is what I stated in the evidence.

Q. You have computed a further and larger capital than any of the figures appearing on Tables 16 and 17, if I understood you correctly, amounting to about $53,600,000, by taking Mr. Wheelock's valuation for the land, Mr. Mayer's for plant and holders, Mr. Humphreys for mains, Mr. Simpson's for services and Mr. Carter for meters and other personal property?

A. Yes.

Q. But you did not include in that connection the entire working capital that the company claims, did you?

A. No. I think I was trying to give the structural assets that could be compared with the 1884 valuation.

Q. You did not include any working capital, did you, in the $53,600,000?

A. No, I don't think that was included in either. I think not, but my object was——

Q. Well, be sure on that because my recollection is you included $1,000,000. I am not quite sure about it.

A. I think not.

3362 Q. You think not. Very good.

A. Subject to correction afterwards.

Q. And you did not include the value of the franchises?

A. No.

Q. Nor any investment representing the plant which is producing the 3,000,000,000 feet or more which the Company now purchases?

A. No.

Q. Nor the National Coke & Coal Company?

A. No.

Q. Now, as to the Astoria plant, you heard the testimony that according to the estimates of the Company the first two units would cost, say $21,000,000, and there would be a loss, if we removed to Astoria our manufacturing plants, after we had produced there the gas which we were purchasing from other sources now, of about ten million dollars or something like that. You remember testimony substantially to that effect, do you not?

A. Well, I cannot commit myself to any definite statement of figures because there have been so many different computations at different times as to the matter. For example, the extent to which the property in New York is going to be "scrapped" has been variously estimated at various times by the witnesses for the complainant, so that I haven't in mind what is exactly the official and final statement of the company.

Q. Well, as a matter of fact, you have always contemplated that about $10,000,000 of the $20,000,000 or $21,000,000 that these two units in Astoria will cost will ultimately be added to capital, haven't you?

A. I have contemplated that the coal gas works at 14th and 42nd Street- would doubtless be abandoned as far as making gas is concerned, if the Astoria plant went into operation.

Q. That is not quite my question. Have you contemplated that

upon the completion of the second unit in the Astoria plant,
3363 about ten million dollars of that expenditure would be capitalized, even if the balance, that is, the other ten million dollars or such a matter be taken care of by a depreciation fund or otherwise?

A. I may have testified in the previous case along that line. I don't remember distinctly.

Q. Well, I don't ask you at the moment whether you so testified. I asked whether you did not so contemplate in your testimony?

A. Well, I had at first supposed there was to be a very much more extensive removal to Astoria than the later evidence has appeared to indicate.

Q. There may be still, if we convince the Court that we are not getting a fair and reasonable return at eighty cents, so don't follow that assumption completely.

Mr. BURR: So far as the evidence here is concerned, it is doubtful whether the Astoria plant is to be in supplement of the present plants or in substitution of them.

Mr. MATHEWSON: I think it is quite clear that the first unit of four billion feet will be required to produce gas which we procure elsewhere but which we sell, which is beyond the capacity of our present Manhattan plants; and the second unit is a replacement of certain of the Manhattan plants, whichever may be the most economical to replace when the time comes. But the replacement and the construction of the second unit, I am frank to say, depends largely on the outcome of this litigation; necessarily so.

The WITNESS: I haven't seen any evidence in the case about the reasons for dropping the contracts with the companies with which you have agency agreements, the subsidiary companies.

3364 Q. Fortunately, we have directors who have that matter in charge and we do not have to worry about it. But I ask you if in your testimony and computations before the Gas Commission, you did not contemplate that ten million dollars of this twenty million dollars expenditure at Astoria, for the first two units, would be capitalized?

A. I think I did.

Q. And if the assumption comes true that the first two units will be completed there and that they will be employed as has been discussed, then $10,000,000 would have to be capitalized, would it not, producing an additional capacity beyond the present sales of the Consolidated?

A. Whether it would be all for the consumers of the Consolidated Company is now becoming doubtful in my mind.

Q. Well, if it is capitalized, we will assume it could not be capitalized except properly?

A. Yes, but not necessarily all to be borne by the consumers of the Consolidated Company.

Q. I will say the consumers of the gas which is produced at the Astoria plant; all the consumers?

A. Yes.

Q. And it would be capitalized, would it not, no matter who the consumers were?

A. Yes.

At 4:45 P. M. adjourned to October 25, 1906, at 12 o'clock.

Last Exhibits:

Complainant's, 256.
State's, W.
City's, 59.

3365 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of Nev York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *Thursday, October 25th*, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Kirby.

3366 Continuation of the cross-examination of EDWARD W. BEMIS:

By Mr. MATHEWSON:

Q. Professor, yesterday we referred to your computation of $53,600,000, value of land, plant, holders, mains, services and meters, but excluding working capital, National Coke & Coal Company, Astoria, good will, etc.——

A. May I state, before you ask that, that I think I presented the exact figures with some degree of qualification, that they night be slightly modified by further computation.

Q. Oh, yes, I understand that.

A. And that was just a summary.

Q. I quite understand that. But from that you made this deduction. You figured by starting with Exhibit 79 in this case a valuation of about $40,000,000, taking the appraised value of the property taken over by the Consolidated in 1884 at something over $30,000,000, and adding to that $9,000,000 and more of additions which have been made since. Now, deducting this $40,000,000 from $53,000,000, you obtained a difference of something like $13,000,00, and you proceeded to deduct that $13,000,000 from the $17,392000 of renewals and repairs which are shown for the past twenty years, and obtained a balance of $4,676,497. Now, did you make that deduc-

tion on the theory that any part of the 10.89 cents during the past twenty years, representing renewals and repairs, had gone into increase in plant, increase in construction?

A. I had an opinion on the subject, and I——

Q. In making this computation and your deductions therefrom did you consider and were your deductions based upon the fact in any degree that some part of the 10.89 average renewals for twenty years making up this $17,392,000 altogether went into additions to plant or new construction?

3367

A. I have found no evidence on the subject. I will tell you what I used in my computation.

Q. Well, did you assume that to be the fact in making these deductions, or did you not?

A. I did not consider it material either way, although I had a belief on the subject; that is, very material.

Q. Well, it may be material to you, but I do not think it is to us. You did not take that into consideration at all, then, as to whether it had or had not gone into construction?

A. I wanted to know the fact, and hoped the accountants would bring it out.

Q. But you say it is not material whether it is or not?

A. I changed that a moment later and said very material. It is not indispensable, but it has a bearing, of course.

Q. But in making this deduction and your reasoning thereupon did not assume that any part of it had gone into new construction, or did you not, so far as it is material at all?

A. My testimony shows that I merely stated that if the value of the plant was so much greater than it was formerly, the appreciation must be set off against any claim of depreciation, and so far as it came near balancing the 10.89 cents, so far should it be set off.

Q. And it does not make any difference in your judgment whether that appreciation is due to the natural increase in the valuation of land or whether the appreciation of $13,000,000 which you have computed came out of the consumers of gas, does it, so far as your theory is concerned?

A. It does make a difference whether it came out of the appreciation of land and paving or whether it came out of the improvement of the value of the plant itself. And I only went so far in my statement as to say to the extent to which the courts might allow

3368

or the company might establish a claim to that appreciation, to that extent was the 10.89 cents too high. But I do, in my own opinion, make quite a distinction, as I have repeatedly said, between the appreciation which comes from land and that which will come from the plant.

Q. We will assume that no part of this 10.89 per thousand, representing renewals and repairs for twenty years, did go into new plants, but that the books were kept in the approved method which you and I agreed upon the other day as the proper method——

A. I don't remember whether we agreed upon it absolutely.

Q. Well, I think we did.

A. Well, I will leave that to the evidence.

Q. In that case, would that make any difference in your conclusions on this subject?

A. Not if the Court is going to allow the appreciation.

Q. Now, as a matter of fact, Professor, you found that this increase which you have computed, consisted almost wholly of the increased value due to the new paving so far as it related to mains and services, and to the increased value of the land by reason of lapse of time, whereas, the plant and holders and meters and other personal property showed little, if any, increase over the book value. You remember that, don't you?

A. No, I do not. I will look at it again. Just a moment, I want to find an exhibit in the case which——

Q. Let me call your attention while you are looking at it, to one or two circumstances which may refresh your recollection. You remember the improvements were carried on the books of the company at about $7,850,000, whereas the cost of reproduction was given as $12,636,000, or nearly five million dollars more than this sum?

3369 A. It appears from Complainant's Exhibit 79, page 347*a*, that there was a net increase of plant of $3,904,000, but I have somewhere, I don't know that I can lay my hand on it at the moment, that there was a very much larger increase than that in the valuation put by Mr. Mayer on the plant compared with the Rowland valuation. As I have it here, there is nearly $7,000,000 increase in said plants, meaning the manufacturing plant and holders, I believe.

Q. What did it appear to be on October 31, 1905, after adding the additions since 1884?

A. $16,087,000.

Q. What was Mr. Mayer's valuation?

A. That was, if I understood it right, about $19,115,000, including holders.

Q. That it was what—$19,000,000 and what?

A. $19,115,000 for the plant.

Q. And that would show an increase of only $3,000,000, because, you remember, the figures you deducted from the $50,000,000 to reach this $13,000,000 were the totals shown on this Exhibit 79?

A. Yes, it would be about $3,000,000.

Q. The mains show here on Exhibit 79 as about $7,850,000, do they not, or something like that?

A. Yes.

Q. How near right is that?

A. $7,852,151.03.

Q. And the cost of reproduction was testified to be about $12,636,000, I think.

A. Yes.

Q. That would be an increase of nearly $5,000,000 in mains, wouldn't it?

A. Yes.

Q. And for services, they were stated to be $1,212,000 on Exhibit 79?

A. Yes.

Q. And the cost of reproduction was $1,994,000?
A. Yes.
Q. That would mean about $775,000, wouldn't it?
A. Yes.

Q. Now, if you take land, what does it appear to be car-
3370 ried on the books at by Exhibit 79? $10,920,000, isn't it?

A. Yes.
Q. What is the appraisal of Mr. Wheelock that you took ?
A. $15,651,500.
Q. Well, that is something more than $5,000,000, isn't it?
A. Yes.
Q. So that taking these three items of land, and mains and services alone, we have about $11,000,000 out of your $13,000,000 increase?
A. Let me see, the plant and holders as I have them here were as follows, according to Mayer. The holders I get from pages 1348 to 1356 as $3,600,215 and the plant I get according to Mayer in the same testimony after deducting as he did 3.9 per cent. for depreciation, he got the present value, as I understand him, $15,515,578, which made $18,115,793, while I understood here that the plant was valued October 31st, 1905, at $16,087,428.72. That meant an increase in that item of $2,028,364.28.
Q. Well, you have pursued that far enough, Professor. Assume that your figures are correct, and I am not going to review them at present——
A. There is quite a difference on meters too.
Q. That would mean a difference, adding this $2,000,000 and more which you have just now suggested for plant, to the $11,000,000 or thereabouts which we have accounted for of land, mains and services, and you get about $13,000,000?
A. There would be about $1,000,000 on meters——
Q. Oh, no, you had better look at that again. Don't confuse yourself.
A. Well, there must be a mistake, yes.
Q. The meters and other personal property showed on Exhibit 79 $3,802,000, if my recollection is correct, whereas the cost of reproduction to-day was testified to be only about $4,200,000, or a very
3371 small increase.

A. Meters and other personal property, that was.
Q. Certainly, so there is not a great difference there. But these items we have gone over account for all of your $13,000,000 and a few small items outside. Is it not apparent on the face of these figures that most of this increase arises from the increase in the value of the land and from the increase of cost of reproduction of mains and services over the cost of original installation?
A. Most of it does.
Q. So if that be the case, it would be impossible that a great amount of that increase could have come from the employment of any part of the 10.89 cents towards new plant and new construction, would it not?
A. I have no sufficient information at the present moment to de-

termine whether in the case of the mains and services the considerable increase is entirely due to the question of paving or whether quite a sum of it is due to other factors such as connect themselves with the pipe itself, the physical property aside from the paving, so that not being able, not having that data in mind even if it had been given, which I am not sure, I could not directly answer your question, I don't think.

Q. It appears, however, does it not, that if no part of the 10.89 cents expended for repairs and renewals per annum on the average during the last twenty years, went into additional construction, no part of this increase of plant, whatever its cause, came out of the consumers of gas?

A. If none of it did come out; it did not come out; that is a truism.

Q. And there is no evidence that it did come out of the consumers of gas unless it was included in this 10.89, is there, so far as you have seen it?

A. That is the place it would come from, I should suppose, if anywhere.

3372 Q. Now, Professor——

A. I would like to qualify my last statement by saying that it would naturally come out of the 10.89 cents. Of course, not being acquainted with the books of the company I cannot say positively how it was financed.

Q. Well, we will leave it that way, naturally. You have stated that you have been connected with water companies, and that they also have pipes and mains the same as a gas company, and that to the extent of that distributing system, there is some similarity?

A. And there are others, in meters and many other directions, distribution expenses quite largely.

Q. Now, as a matter of fact, you have read the testimony of Professor Marks, that the cost of installation of our mains and services, as they appear upon the books, and as they appear upon Exhibit 79, are correct and moderate, as he states?

Mr. BURR: So far as his information went. He had no knowledge of the maps of the mains or other information.

Mr. MATHEWSON: Well, he said he had made a computation, and assuming the mileage of mains to be as stated, that the figure on the books of the company which is on Exhibit 79 as to original cost of installation was fair and moderate, or correct and moderate.

The MASTER: All that he said and assumed is in the book of testimony, and what is the use of spending time discussing about it? If you can turn to it and ask it in the language of the witness, so much the better. If not, we will have to let it go subject to my correcting it.

Mr. BURR: On the assumption that what Simpson testified in regard to the mains was correct, Dr. Marks made certain remarks.

3373 Mr. MATHEWSON: Well, we will call attention to Dr. Marks' affidavit, page 49——

Mr. BURR: He called attention to it himself.

Mr. MATHEWSON: Yes, so he did. In which he says, "Referring to the affidavit of Colin C. Simpson, Superintendent of Mains and Services of the Consolidated Gas Company, I would say that I have carefully recomputed the cost of the mains owned by the Consolidated Gas Company from the inventory given by him, and I am of the opinion that the cost of installation, as given on the books of the company—probably correct and moderate."

Q. You read that, didn't you, Professor?

A. Yes.

Q. Now, you also noted his statement that he had checked Mr. Simpson's estimate of the cost of reproduction at $12,636,150.04 similarly, and that list also seemed to be "moderate and fair." And that he also then took up the subject of services including the curb box and stop valve and stated that they corresponded very closely with the average experience as to the cost of installation, and that he considered that to be "moderate and correct."

Mr. BURR: All on the assumption that Simpson's statement was correct.

Mr. MATHEWSON: As to the mileage and size of mains, of course.

Q. Now, you also before the Gas Commission made a computation as to the cost of installation of the mains of the Consolidated Gas Company which you stated appeared reasonable from all that you could gather, didn't you?

A. Well, will you read what I said?

Q. "The value worked out on the basis of the unit values
3374 used in 1884 (this is 1904 here by mistake) the mains were probably laid in New York before paving was put down in most cases before even cobblestones or macadam, so that the book values would appear reasonable from all that I could gather." Is that correct?

A. Yes, I think I said that.

Q. And your computation at that time upon the unit value which you assumed, produced a total for mains, did it not, of $8,396,698 or a little beyond the book value?

Mr. BURR: Is it page 1255 of the Gas Commission testimony?

Mr. MATHEWSON: Yes.

A. What I did was to take the present sizes and the cost per foot in 1884, as given by Rowland, and computed that if there had been no depreciation whatever new mains would now be worth on the basis of 1884 prices $8,400,000.

Q. And did you not say that that appeared to be reasonable?

A. If you find it there. I don't remember.

Q. Well, I just read your testimony.

A. Well, I assented to it as read.

Q. "So that the book values would appear to be reasonable from all that I could gather?"

A. Yes.

Q. And you found that those figures differed very little from the figures upon which all the experts, you agreed, testified in the Boston appraisal as between cobblestone and macadam or something of that sort?

A. It was about equivalent to an average between the cost of the two.

Q. So that as far as your experience was concerned applying to the Gas Company, that is the laying of mains, the book value appeared to be fair and reasonable as to cost of installation, not cost of reproduction, to-day?

3375 A. Yes, that is what I stated. I have to correct a statement that I assented to a moment ago as to figures I think to a slight extent. I implied that the $2,000,000 difference in plants—$2,000,000 higher value in plants according to Mayer, than the valuation October 31, 1905, was practically the only difference outside of land, mains and services, but I find instead of there being only $2,028,000 difference in the total, outside of land, mains, and services, there is a difference of $3,325,819. The total as given by your various witnesses exceeds the valuation of October 31, 1905, as it appears on Exhibit 79 outside of lands, mains and services by $3,325,819, omitting the odd cents.

Q. That is according to your computations from their testimony, is it not?

A. I took the total as given here in Exhibit 79, $30,883,984.91, being the valuation in 1884, plus the net increase of $9,693,565.90. That brought it up to the figure just quoted of $39,883,984.91. I deduct that from the $53,461,327.00 as the recent appraisals which leave an excess not accounted for by the construction account of $13,577,342. But of that amount the increase in the real estate, mains and services was $10,251,523, not accounted for in the construction account, and taking that out left a balance of $3,325,819. I may say that in using those figures I took the round figure for mains at $12,600,000 that Mr. Humphreys testified to, instead of taking the $36,500 more which I think was the exact figure of Mr. Simpson.

Q. Now, you subsequently used the $36,500 in getting your computation?

A. No, I mean in this computation.

Q. But there is a difference of a million dollars, and the only item you have not included in your computation are meters and other personal property, which are carried on the books at $3,802,000, the present value of which was stated to be only $4,200,000 or

3376 $400,000 increase, so you have made some error in your computation, but it is not material to my present point and I will not pursue it. You can see in a moment there must be a difference which will appear when you go over your figures. Now, taking up the subject of capitalization per thousand of output, you have already shown on your table that the capitalization in Boston, as fixed by the Act is $4.26 per thousand of output. Is it not a fact——

A. Where have I stated that?

Q. In your table which you presented. You have also stated that there was an appraisement there. That appraisement, as a matter of fact, whether it was accepted by all parties or not, was at a very much higher figure for the value of the property than the amount

of the capital stock, which was only $15,170,000 under the Act, was it not?

A. An appraisal was brought in which was disputed and never came to a final issue.

Q. But it was an appraisal which if it were true showed the value of the property to be in Boston $24,000,000 or $25,000,000?

A. Yes. Hardly any deduction was made for depreciation or duplication, or because the mains were duplicated.

Q. Yes, I understand that is your belief, but there was no deduction?

A. No.

Q. But taking things as they stood, cost of reproduction, it was about $24,000,000 or $25,000,000, according to the appraisal?

A. I don't remember just what the total was.

Q. It was over $20,000,000 considerably?

A. It was over $20,000,000, but there was a great dispute about it.

Q. I know. It was claimed some deductions should be made because the mains of companies duplicated in the street and some depreciation should come out, &c., but the appraisal as made by Mr. Humphreys as a practical gas man exceeded $20,000,000

3377 considerably?

A. My recollection is it was in excess of $20,000,000 but I criticise very much the appraisal.

Mr. BURR: Is that the same Dr. Humphreys who has testified here?

Mr. MATHEWSON: Oh, no; it was his brother, who is with the Lawrence Gas Company.

Q. Do you remember that the Brookline Company went into the City of Boston and paralleled the mains of the Boston Gas Light Company so as to give the people of Boston the benefit of competition at one time?

A. To some extent they paralleled.

Q. And so far as they paralleled the mains for that purpose some people objected to their capitalizing the mains which were able to produce this competition; you remember that, don't you?

A. There was criticism of that.

Q. Yes, and that was part of the duplication of mains that was objected to, although the mains were put down for the purpose of giving competition. Now, let us take up the City of Chicago. What was your estimate in the Chicago report to the City of Chicago as to the cost of duplication of the Chicago gas works?

A. I think I spoke of a new plant as $3.20 per thousand feet.

Q. That was for water gas, was it not?

A. Yes, but they had as many mains. They had twice as many mains—I had to allow for twice as many mains as New York.

Q. Yes, but a distributing system is not the greatest nor the most expensive part of the plant of a company when you come to compare it with manufacturing plant and land in a great city, is it?

A. I wouldn't want to answer that question offhand. That is a

point of considerable importance and I would not want to answer offhand.

3378 Q. And the size of the mains might be very much larger in New York, although the mileage was less, might they not?

A. There might be of course a difference. The distribution system is by no means a small part of the total cost of the plant.

Q. Well, as a matter of fact, assuming the mileage to be greater in Chicago, the cost of laying mains in New York, in view of the rocks here, and the other obstructions, such as the old and narrow street and the congestion of traffic, is very much greater, isn't it, than it is in Chicago?

A. That is true of the rocky district, which is not, however, a large percentage here, if I recollect it is ten per cent., if I remember right, but I may be wrong as to the percentage. Most of the mains seem to have been laid in New York before the congestion became as great or the paving became as expensive.

Q. But taking the denser population of New York and the congestion of traffic on the streets, they would all tend to make the laying of mains in New York more expensive than in Chicago, wouldn't they?

A. I should think the cost of laying might be a little more, but I am not sure of that. Wages in Chicago are rather higher than in New York, if I remember the last tabulation of the United States Department of Labor; and, further, I rather think that pipe per ton would be a little cheaper in New York than in Chicago.

Q. Do you think it would right next to the Illinois Steel Company's plant?

A. Well, Philadelphia is a large maker of pipe right in this vicinity.

Q. Is it not so near this vicinity as the Illinois Steel Company's works are to Chicago?

A. No; not quite.

Q. Now, you are simply speculating. You have never laid any mains in Chicago, nor in New York?

A. I was considering your question. You were asking me to express an opinion.

3379 Q. No. I was merely asking you as to the cost of laying mains in Chicago and New York; if the cost of installing the system, of laying the mains, would not be much greater in New York than in Chicago?

A. I thought you included the mains themselves as well as the laying.

Q. No, I didn't ask any such thing, because I didn't think you were qualified to reply.

A. I laid over forty miles of mains last year.

Q. In New York City?

A. In Cleveland.

Q. I am talking about New York City. Don't you think the expense of laying mains in New York City would be substantially greater than it would be in Chicago per mile of main of the same size?

A. I think it would cost more to-day, but whether it did cost more when it was done, I am not at all certain.

Q. What about the streets in Chicago; aren't they very broad streets?

A. Yes.

Q. Ample room for trenches, without interfering much with traffic?

A. But labor is more expensive there. That is the trouble.

Q. I don't know whether it is or not. I am talking about one point. Assuming labor to be the same. And I don't think it is any higher there; I don't think it is so high.

Mr. BURR: Well, you are not testifying.

Mr. MATHEWSON: No, but I know just as much about it as the Professor does, and he is testifying.

Mr. BURR: I disagree with you.

The MASTER: Gentlemen, let us proceed.

Q. Well, I will read now from your Chicago testimony and ask you if you did not testify as follows:

"New York has a more dense population on the Island than
3380 Chicago. Yet, on the other hand, the cost of laying mains is very much greater per mile of main because of the rocky soil they have to blast, and the congestion of traffic on the streets and the greater quantity of good paving."

A. That is true to-day, yes.

Q. And the same was always true, as far as you know?

A. Yes, but the congestion was not.

Q. Do you know of any period when the congestion in Chicago, when they were laying mains, was as great as it was in New York City in 1823 when they began to lay mains here and at which time Chicago was a prairie?

A. I was talking about the cost of laying mains in Chicago to-day with the cost of New York as originally laid, I think.

Q. The capitalization of the Chicago companies is over $6.00 per thousand feet, isn't it?

A. I would not be surprised at that figure, but I don't remember exactly what it is.

Q. Didn't you so testify before the Gas Commission, at page 1436 of your testimony?

A. I don't remember that I did. If I did, all right.

Q. Won't you look at it (handing testimony to witness)?

A. Yes. You gave me the figure, did you not? $69,000,000, and I made a division for you a year ago.

Q. Something over $6.00?

A. That's right.

Q. Do I understand that in Chicago you were comparing the cost in Chicago at that time with the cost to the Consolidated Gas Company of its plant as originally established?

A. I don't remember now, but I thought I was comparing it with the testimony in the case as to the book value of those mains.

Q. Yes, but I ask you, taking the mains, whether you were
3381 comparing the cost of installing the system in Chicago at the time you testified a year ago with the original cost of installation by the Consolidated Company when it put its mains in.

A. I don't remember now exactly.

Q. Now, I call your attention to Mr. Cowdery's statement in Chicago, regarding capitalization per thousand feet of annual output——

Mr. BURR: You read considerable from Mr. Cowdery's statement yesterday and I might well have objected to it because he is not here as a witness and subject to cross-examination, but I will avail myself of the privilege that you took of reading other parts of that report, inasmuch as you read Mr. Cowdery's statement to such an extent.

Mr. MATHEWSON: If it comes under the legal rules of examination I do not know that I can object, and if I did, I don't know that I would be sustained. I call the witness's attention now to a statement of Mr. Cowdery and ask if he agrees with it and if it modifies his testimony.

A. What page?

Q. Page 21 as follows:

"Regarding capitalization per thousand feet of annual output, I will say that I have taken a company and replaced it absolutely from beginning to end, and I know positively that it would not be possible to replace the company here in Chicago with its first-class property and its business for less than five dollars per thousand feet of annual output. I would consider it a physical impossibility to replace the plant and business of the People's Company for $35,000,000."

3382 Q. Now, considering Mr. Cowdery's standing and experience as a constructor, and your want of it, in gas properties, wouldn't that modify your previous view that the plants in Chicago could be duplicated for $3.20 per thousand feet?

A. You notice he is not talking about the same thing.

Q. What is he talking about?

A. Property and business.

Q. Very good. Property and business. Do you concur with his statement as to that?

A. That I am not sure about, but it was not what I was talking about.

Q. You are not prepared to question it at this moment, are you?

Mr. BURR: He has not spoken of it.

A. I have not spoken of it.

Mr. MATHEWSON: The witness ought to testify, I think.

Q. I asked whether you are prepared to criticize that estimate at the moment?

A. I have found no data anywhere as to a matter of that character. I hold it is not a proper subject for capitalization. In other words, the capitalization of the consumer at so much a head is not to be found anywhere in either Massachusetts or Great Britain.

Q. Not even if five dollars per thousand feet was actually expended in establishing a plant and producing the business?

A. That went into advertising and operating expenses in the last fifty or one hundred years. It has been charged already, the consumer paid already for getting himself on as a consumer. Why should he be capitalized and pay interest on himself?

Q. (Question repeated.)

A. I have answered. And I will say even if $5 was re-
3383 quired to establish the plant and business, what was devoted to establishing the business should not be capitalized because it is already included in operating expenses.

Q. Of course it would bring something if you went to sell; an established business would bring more ordinarily than the mere structural value of the plant?

A. Probably.

Q. You made an estimate to the City of Montreal, I think quite recently, as to the establishment of a plant there. Do you remember what your estimate per thousand feet of sales was for that plant?

A. Not exactly. I will look at it and verify the figures.

Q. Will you look at it and see if it was not $4.30 per thousand feet of sales?

Mr. BURR: What relevancy has that unless the conditions are the same there as here?

Mr. MATHEWSON: Well, the Professor has been referring to other cities.

The MASTER: The same might be said, Mr. Burr, of a good deal of the testimony here.

A. I did. Shall I explain why there is that difference?

Mr. BURR: Yes.

Mr. MATHEWSON: No. Not yet. I have the witness just at present.

By Mr. BURR:

Q. But you can explain later.

A. Later.

By Mr. MATHEWSON:

Q. You also testified in Baltimore, quite recently, didn't you?

A. Yes, sir.

Q. Within the past year?

A. Yes; in the early spring.

3384 Q. In that case you were testifying for the city which was trying to sustain an assessment on taxes which was claimed by the companies to be high, weren't you?

A. Yes.

Q. And in that case did you not estimate the value of the property of the Baltimore Gas Company by taking the net earnings of the Company and multiplying them by twenty, and state that to be a fair basis for reaching the valuation of the entire property?

A. I think I did. That is Mr. Humphrey's basis in Holyoke.

Q. Then you quite approve of that basis of taking the earnings

of five per cent. and multiplying by twenty in order to get the value of the property?

A. The Company in Baltimore had no inalienable right to continue to earn on that, but as long as it was earning on that basis the city had the right to tax it on that basis.

Q. Well, we all have inalienable rights, Professor, we hope. I desire to ask you if you testified as follows in Baltimore (pages 282-283):

"Q. Kindly state in detail how you arrived at your valuations? A. I first took into consideration what should be the value of a gas company which divided in a certain year earnings of $928,410 and which, in addition to that, added somewhat to its surplus. I have for years been studying the relation of the dividends and interest or divided profits of gas companies to their total values, and I have found that in large cities of the East, such as Boston, New York, Philadelphia, Washington, and Brooklyn that the Company is worth more than twenty times its divided profits, that a capitalization of five per cent. is a very conservative capitalization; in the larger gas companies of the East based upon the profits which they yearly divide. So that I approach the subject from
3385 the standpoint of the customary rule in gas companies * * * I considered five per cent. very conservative but not unduly so perhaps for this investigation. Four and one-half would be a little too low, and so I took five per cent. as a basis of capitalization, and that gave me $18,568,200 as the total value of the property."

On cross-examination by Mr. Gans (page 294) you were asked:

"Q. Then you capitalized the divided profits at five per cent.? A. Yes, sir.

"Q. Your theory of capitalization being that from your experience in gas companies you say the value, the total value of the property is twenty times the divided profits? A. Yes, sir.

"Q. When you say the total value of the property of the Gas Company, you mean all that it owns? A. Yes."

Mr. BURR: Is that the same Mr. Gans who appeared here?

Mr. MATHEWSON: I don't know.

The WITNESS: No.

Mr. MATHEWSON: Subsequently, at page 296, you said:

"A. Except that I should add * * * that I took a very conservative figure at five per cent., particularly in the case of a Company which has so large a surplus; many of those companies worth twenty times the divided profits which do not have large surpluses, so that I would not make the absolute assertion that twenty was quite a large enough amount, but I took it in order to be rather conservative."

3386 A. It shows how much more conservative I was here when I take six per cent.

Q. Yes. Then you were asked:

"Q. State what a purchaser would pay for the property at a fair sale?. A. I believe that he would capitalize the earnings that it was making and consider that he was thoroughly justified on that

basis if he should only expect five per cent. on these earnings on the purchase price, but he would have almost conclusive reasons, from the experience of other States to expect a growth in that business with the growth of the city," and so on.

Now let us capitalize the Consolidated Gas Company on the basis of twenty times its earnings, which you stated you thought was rather low; and will you look at Exhibit 96 and see what the earnings of the Company were for the last year? Exhibit 96 shows net earnings of $4,587,955.99. Of course the earnings are a good deal larger than that if your estimate of the proper cost of gas was correct, but we will take those modest earnings?

A. That makes $91,759,919.80.

Q. Have you ever taken occasion to note the average structural value per thousand feet of sales of all companies operating in the United States, and if so, I will ask whether the statement in this table appended to this Chicago pamphlet which is $7.23 per thousand feet accords with your information?

A. I have been looking for it lately. I don't know whether I brought with me the census bulletin which you refer to; which would bear on that, I mean.

Q. It is already in evidence that the average capitalization per thousand feet is $8.47 and this refers to the structural value per thousand?

A. I have left at the office, I think, the census bulletin.

3387 Q. Isn't it your recollection that that is about it?

A. I don't recall now. I remember looking it up and finding that it was much larger in the United States as a whole than it was in Massachusetts, owing to the way they have of padding their assets to make them conform to their watered stock.

Q. Have you ever kept any books for any gas company in the United States?

A. No, but I know how they do it.

Q. Then your views as to how much they pad it is largely hearsay—wholly so, isn't it?

A. I don't know what you mean by hearsay. I have not done it myself.

Q. Exactly. Referring to this Chicago report again, I call your attention to page 35 and ask you whether this is not the summary of the Commission:

"A brief explanation is presented, showing the course of reason followed by your Committee in arriving at the price of 85 cents. The cost of manufacture and distribution is taken as indicated by the report of the auditors; 45.4548 cents. This, the auditors state, includes 6.0043 cents for repairs and renewals. Messrs. Bemis, Cowdery and Humphreys practically agreed that 10 cents is a fair allowance for current repairs and renewals. The difference between 10 cents and 6.0043 cents is 3.9957 cents, which is added as additional allowance in order to make the full 10 cents. This gives 49.4505 cents as the cost of manufacture and distribution, including current repairs and renewals. This is approximately 50 cents, and we so call it for convenience. A reserve of 5 cents is added for contingencies. Mr. Cowdery and Mr. Humphreys agreed that $5.00 per

thousand cubic feet of gas sold is a fair allowance for capi-
3388 talization, representing structural value and working capital to secure the business. Upon this we allow an income of 6 per cent., or 30 cents per thousand feet. In this way a total cost of 85 cents is reached."

Have I quoted you correctly?

A. Yes.

Q. And you observe that thirty cents per thousand feet was allowed by the Commission in their estimate?

A. Yes.

Q. And six per cent. on the capitalization of $5.00 would be just the same as eight per cent. on a capitalization of $3.75, wouldn't it?

A. They may have vetoed the bill. They passed it over the veto.

Q. This report has been presented here by the Council for the City and we are making use of it accordingly. Now, taking the fifty-five cents which you estimated as the cost of gas in Chicago, assuming that the cost of oil in Chicago was as you stated, according to your best information, and in New York was only four cents, which would make a difference of over one cent for each gallon of oil, that would make a difference in the cost, would it not, of about five cents per thousand feet, about five gallons of oil being required for each thousand feet?

A. Yes; about five cents; between four and five.

Q. But if the Consolidated Company properly pays say four and one-half cents as against three cents in Chicago, that would make probably more than five cents?

A. I have forgotten this estimate, whether the oil is four gallons or five when distributed over the entire amount made.

Q. You testified, I think, before the Commission that it was four and three-quarters or five?

A. Yes, I know it. It was not very much. I didn't want to commit myself to an exact figure without verifying it from your exhibit.

3389 Q. Precisely. And you found or estimated that the taxes in Chicago were about five to five and one-hall cents?

A. I think it was five and one-half.

Q. While in New York, upon your own theory, they are a little over six?

A. Yes.

Q. And if we are entitled to charge interest on unpaid taxes into the construction cost of gas it would be six and three-quarters or something like that?

A. If your property is anything like this figure of course——

By Mr. BURR:

Q. What figure are you referring to?

A. The figure of capitalization at five per cent. of net earnings, $91,759,919.18.

By Mr MATHEWSON:

Q. Well, the taxes then in Chicago are less than they are in New York upon any theory, to some extent?

A. Yes, I should think they were.

Q. And your computation of the cost of "Other Items of Distribution," after you had eliminated certain items, was for Chicago, about 5.7 cents while New York showed an expenditure of 9.5 cents for the same items; you remember that, do you not?

A. Yes.

Q. There is a difference of something like four cents. So that if the expenditures of the Consolidated are proper and prudent you would have in the cost of oil, and in additional taxes, and in the additional expense of distribution of these "other items," an excess of ten cents beyond the Chicago cost?

A. On all those suppositions I should say, yes. Of course that does not take into account other facts such as the larger density in New York and other things, but on that supposition it is correct.

3390 Q. Oh, yes, it does, because we are talking about the operating amount of cost and I am assuming that the expenditures of the Consolidated Company were fair and prudent, as I stated?

A. Yes.

At 1:15 P. M. a recess is declared until 2:30 P. M.

After Recess.

EDWARD W. BEMIS resumed.

Mr. MATHEWSON: Professor Bemis, I find you quoted on page 16 of the Chicago pamphlet as follows: "For taking care of ultimate depreciation I accept the standard established by Alexander C. Humphreys, the best authority I know of in the gas world." Is that correct?

A. That is a quotation from a letter of mine to the City Council of Chicago, I judge. You have not finished the sentence, have you?

Q. Yes. It merely follows with a statement as to Professor Humphreys' testimony in the Holyoke case. I also find on page 18 the following statement: "I don't know of any gas company that was successfully floated on a basis of six per cent. of its structural value with the exception of Cleveland. I don't know of any gas company which started in and built an entirely new plant on the basis of $3.20 output, which was floated on a six per cent. basis?

A. Don't I go on to say——

Q. No matter what you went on to say. Do I quote you correctly so far?

A. That was quoted correctly so far as it went.

Q. I also find you quoted on page 19 as saying: "A five per cent. bond will float at par and a seven per cent. stock will float at par in the gas business."

A. I don't remember whether I said seven or not. It is

3391 so quoted there as a synopsis of my testimony.

Q. Have you any doubt about it?

A. I should have thought I said six; I usually do.

Q. Won't you see if immediately following that you did not get your six per cent. by assuming that the company would issue bonds

and borrow money from the public at five per cent. for one-half of the plant and issue stock and furnish the money themselves for one-half at seven per cent., which would make an average at six per cent.?

A. Yes, sir.

Q. Instead of furnishing all the money themselves and issuing all the stock, as we will assume they might have done?

A. Yes.

Q. Now, will you look at Exhibit 85 in this hearing, referring to the increase of output of gas, and tell me what the output of the Consolidated Company was in 1893?

A. 6,854,014,000 feet.

Q. Take five years later, 1897, or covering the five years' period——

A. That is four years later.

Q. Well, four years later, what was the output then?

A. 6,790,864,000 feet.

Q. Practically the same thing, wasn't it?

A. Yes.

Q. What was the output in 1894?

A. 6,731,325,000 feet.

Q. And it is a fact, is it not, that the output in 1897 was less than it was in 1894?

A. The sales were less by 59,000,000 feet, as appears by that exhibit.

Q. Oh, certainly. Don't you think that the business depression which began in 1893 and 1894 and continued until 1897 was responsible for the failure to increase?

A. Why, I think it was, as far as my present knowledge goes.

Q. On the other hand, don't you think that prosperity is responsible for a very large increase in the sales of gas in a period of prosperity?

A. I think it is.

Q. Is it not true that hard times result in economies in
3392 the purchase of gas, the same as economies in the purchase of any other commodity on the part of consumers?

A. And also on the part of the gas company, both, I think.

Q. If the gas company can, of course.

Mr. BURR: Or if the consumer can.

Q. But won't you confine yourself to my question. Let us not reason about it now, let us get down to the fact?

A. In hard times all prices and all labor are likely to be lower than in good times. Consumption is likely to fall off.

Q. Well, it may be likely to, but it is a question of fact here, Professor.

A. It remained about stationary there in gas.

Q. Let us look at City's Exhibits 57 and 58 in this hearing, that is the charts purporting to show "Effect of Price Reduction in New York" for Exhibit 57 and "Effect of Price Reductions in Boston," Exhibit 58. These relate, do they not, to gross sales?

A. Yes.

Q. What effect would the period of prosperity which began in 1897 and which has existed up to the present time have on the ability and inclination of consumers to purchase gas?

A. Other things being equal, it tends to increase the consumption of gas.

Q. What effect would the coal strike of 1902 and 1903 have on the consumption of gas?

A. Other things being equal, it would have a tendency to increase the consumption.

Q. What effect would the fact that the winter of 1902-3 and the winter of 1904-5 were the two coldest winters on record consecutively in the City of New York have on the sale of gas?

A. I am not sure.

Q. Don't you think that would tend to increase the consumption of gas?

A. I am not sure.

3393 Q. It certainly would if it were to be largely used for fuel, as you have indicated, and in open grates?

A. I am not sure. I will explain why I am not sure if you wish.

Q. Well, do so briefly.

A. From my own experience in the use of gas and from the experience of many others, there is more and more a tendency to use gas in the fall and spring and start the coal furnace later. Now, if a cold spell began earlier and quickly, one might more quickly proceed to a coal furnace or steam heat or something of that kind, and not continue so long with gas logs and grates.

Q. Don't you know that taking private houses which are heated by furnaces in the City of New York, very few of them indeed have gas grates, and that substantially all of them, if they have grates at all, have grates for coal or wood, more expensive forms of heating?

A. I suppose there may be a great many asbestos grates, and I used that expression interchangeably with logs, any form of heating the room.

Q. Don't you know the rooms which are fitted with gas grates are largely appartments where they are not heated by a furnace at all but by steam?

A. The same would apply to steam as to a furnace. I intended to make that change a few moments ago.

Q. So that in these apartments where open grates are largely used they could not turn on the furnace in the winter, because there is not any furnace. They would have either to turn on the steam or use the gas logs?

A. And I used it interchangeably for steam heat or a furnace. If, for example, the cold weather came on very sharply, the steam might be turned on for the building while in the intermediate weather between the warm weather and the time when the heat was put on in the basement there would be the use of gas for heat.

3394 Q. You have not in your testimony referred to the increase of population particularly. Does not the increase in population result in the increased consumption of gas even if the total sales per capita remain the same?

A. Yes, I looked into the figures in the Borough of Manhattan to some extent, and did not discover any large percentage of difference in the five-year periods from 1885 to 1905.

Q. Don't you think the occurrence of a period of great prosperity and of the two coldest winters on record and of the coal famine in the period from 1901 to 1903 would of itself, naturally result in a large increase in the output of gas quite aside from any change in price?

A. My testimony provided, for that——

Q. Just answer that if you will?

A. Yes, in my testimony I made allowance for that.

Q. That would explain this point on Exhibit 58, would it not, where it runs up in 1902?

A. Yes, I said so in my direct testimony.

Q. As a matter of fact, if the price had remained the same you would have expected this line showing the increase in the gross consumption of gas to rise constantly, due to the increase in population and to the period of prosperity?

A. But not as much as it has risen?

Q. But won't you answer my question?

A. I did. I said yes.

Q. Well, don't say "but." I am asking you for facts, and you have enunciated your theories before. Now just answer my question.

A. I was afraid my answer would be misleading.

Q. Don't think so. I want you to take the theory——

A. Mr. Mathewson, sometimes my answers have been quoted by you, and I can see by reason of not making them full enough they have misled you.

Q. You are entitled to have any explanation on the redirect that your counsel deems proper. Won't you look at Exhibit 58,
3395 from 1893 to 1895, two years, and say whether that does not show quite a sharp rise in consumption?

A. Yes.

Q. At the same time there was a drop in price?

A. Yes.

Q. But the drop in price ended at the same time as this particular rise, that is 1895?

A. Yes.

Q. What became of the momentum which you have said would carry the rise on continuously for some time farther?

A. It was temporarily checked by the hard times, so far as I can tell.

Q. Well, but it kept going up to the end of 1895 when the hard times were half over, and then continued at about the same rate until 1899, although that included two years of the good times, didn't it?

A. I am not quite sure how good the times were between 1897 and 1898.

Q. Don't you remember that from the time of the election of McKinley in November, 1896, that a period of prosperity set in, not because of that election, perhaps, but as a matter of fact. Don't you remember the date?

A. I remember the date of his election and that good times began soon afterwards, but I don't think the good times were especially felt by the gas users so quickly as you speak of.

Q. Let me ask you this. Beginning with 1901 and running to 1902 when the price of gas remained precisely the same in Boston don't you find a sharper rise than occurred between 1893 and 1895 when the price of gas was reduced?

A. I think it is slightly sharper.

Q. So, too, Professor, taking Exhibit 57 in the City of New York, is it not true that the increase in the sales of gas from 1901 to 1904, while the price of gas remained stationary in New York, shows just as sharp a rise as from 1899 to 1901 when the temporary reduction in price took place?

A. Yes, it was the period of the coal famine.

3396 Q. Not all of it, no. And the rise before the coal famine began, that is from 1901 up to the beginning of 1902, is just as great, is it not, as it is from 1902 up to 1903?

A. Well, I think the momentum of that previous price reduction was felt.

Q. But we saw that the momentum failed in the case of Boston entirely, so it would not be accepted as a general rule, would it?

A. No, I don't think it changes the general rule. I did not state in my direct testimony that the question of price was the sole factor, but it always was a force in operation; it might be temporarily counteracted.

Q. And you do not think it makes any difference how much gas a community is using per capita, you still think there is just as big a chance for increase and that an increase is just as likely, do you?

A. Yes, up to a point where we will say all conceivable uses of gas had taken place.

Q. Don't you think in a city like New York, judging from your observation, that gas as an illuminant as distinguished from its use as fuel has seen its best days?

A. That is uncertain. It was thought so when electric lighting was first introduced, but the contrary has occurred and now the Welsbach burner has come in and there are improvements being made in the use of burners, so I am not prepared to say although I do think that the greatest future of gas lies in fuel.

Q. And you do know by your own observation along the great commercial streets of New York that electricity has virtually superseded gas as an illuminant in the shops and in the department stores so far as you can see, has it not?

Mr. BURR: You mean for signs?

Mr. MATHEWSON: Yes, for signs and illumination.

3397 The WITNESS: I cannot say that.

Q. You have not observed that?

A. Why, there has been a more rapid increase of electricity than in gas in illuminating stores but I am not prepared to state that the increase in gas for lighting has not continued through the last twenty years of electric competition. I believe it has. I do not think by any means all the increase in gas has been in fuel.

Q. Well, electricity as a real competitor has made its best strides, has it not, within the last five or ten years?

A. Yes. I make the same remark referring to the last five or ten years.

Q. You referred to the high buildings. You know the high office buildings downtown are virtually all lighted by electricity and not by gas?

A. I think most of them are.

Q. So that would not add anything to the requirements of gas?

A. For lighting, yes, that is true.

Q. You know that is true of the apartment houses generally being put up, that they provide for electric lighting, with gas logs and ranges?

A. I thought they were usually piped for both, that is, piped for gas, and wired for electricity.

Q. Your observation is not sufficient so you can say which they do use?

A. No, sir, I think they use both. No, it has not been sufficient for me to give you a positive statement.

Q. It is true, is it not, that the better illuminants, other things being equal, tends constantly to supersede the poorer, beginning with candles and whale oil, lamps and gas and electricity, all the way down through?

A. Of course.

Q. And the earlier industries have been virtually driven out of business in some instances by the discovery of better illuminants?

A. Well, the uses have been diverted, as in the oil business; there is not as much oil used for lamps, but there is more oil used.

3398 Q. But unfortunately we cannot use gas except for the purpose of fuel and illumination.

A. Oh, no, but you were speaking of illumination.

Q. Have you any information about this Tunston lamp which it is claimed will produce 2½ times the illumination at the present price of electricity?

A. I have heard discussions on that but don't know much about it.

Q. If it should prove to be well founded, would that make a very serious inroad into the gas lighting that is left, if you could produce your electricity for illumination for 40 per cent. of its present cost?

A. Any reduction of price, in short tends to affect consumption as I have said.

Q. And you have to take into consideration such things, as in all possibilities of the future?

A. Yes, and it becomes all the more important to reduce the price of gas.

Q. The less we sell and the bigger the inroad of electricity the more the price ought to be reduced?

A. The lower you sell the better you compete with electricity.

Q. That depends whether we can sell at a profit or a reasonable return. You would not claim we could make more money if we sold gas at a price which netted us an insufficient return.

A. No, you have to have a return.

Q. Now did you in the case of Boston, in computing the average

prices and receipts, include all the receipts of the Brookline Company, part of which were from electricity?

A. In what computation now do you refer to? Oh, yes, in that table?

Q. Yes. Did you exclude the receipts from electricity?

A. I intended to exclude them and I believe I did. I can say that I am positive that I did but I don't know that I have brought with me the way in which I made that table up.

Q. I don't care how you made it up, if you will assure me
3399 that you eliminated them. I merely asked for information because I have not computed it myself.

A. The way I made the table was to take the sales of private consumers of each company of the six and multiply it into the average price as given by the State Gas Commission, and in that way I got my table.

Q. Let us look at Table 19 for a moment. At what page is that?

A. I think that is the table on page 3088. Table 19 begins at page 3088 and runs through 3091.

Q. This table to which you have referred shows reductions in the price of gas in each of the cities named, sometimes the reductions for two periods, that is Cambridge, 1904-5 in the first place and then 1897-8 in the second place; Charleston 1894-5, 1897-8 1901-2, showing the year before and the year following in each case?

A. Yes.

Q. And you have shown what you think is the result on what you say was an average reduction of 10.83 per cent. in the price of gas?

A. Yes.

Q. Do you think that the same result would follow as to profits if you reduced the price of gas 25 per cent. as is proposed in New York City, instead of only 10.83 per cent.

A. No, not to a greater degree. I did not claim that in my testimony.

Q. Now, you do not claim, do you, that if a man is burning forty dollars' worth of gas per year, that merely because the Company reduces the price of gas so that he gets more gas for forty dollars than he did originally, he will then proceed to buy fifty dollars' worth of gas per year merely because he feels pleasantly towards the Company.

A. No, but he is quite likely to buy more.

Q. But he will get more gas for the original forty dollars, will he not?

A. Yes, but he is likely to have larger gas bills.

Q. And a greater part of the consumers are people who are
3400 apt to have an average gas bill for the same amount each year, aren't they?

A. I will modify that as to his paying a larger bill. That begins to occur after the price goes down so it begins to compete with coal. Prior to that the fact is that there are more consumers who begin to use gas.

Q. How low will you have to have the price of gas so it will be as cheap as anthracite coal at, say, $6 a ton? How low will it have to be sold?

A. It varies as to whether it has to be used for cooking or for a

furnace. It would have to be much lower for a furnace to compete with coal than in cooking.

Q. Well, it would have to be sold, would it not, as low as 30 cents a thousand feet at least in order to produce as economical results in consumption as anthracite coal at $6 a ton?

A. In heating through the dead of winter, I should say so, but that would not be true for summer and fall and for cooking.

Q. How low do you think it would be reduced before it could compete with anthracite coal for that purpose?

A. Taking into account the greater convenience, you would find large quantities used at 80 cents.

Q. Eliminate the question of convenience for a moment, and let me know at what price, if you can, gas must be sold to be as economical in use as anthracite coal at $6 a ton?

A. That is rather difficult to state exactly, but the experience of the cities that have tried the reduction in price shows a larger use of gas for fuel purposes.

Q. Was not Mr. Cowdery's idea that it would have to be as low as 30 cents a thousand feet?

A. Not for use in cooking or for summer and spring and fall heating; if he said anything of that kind, it could only have been in reference to heating through the middle of the winter. They have developed an immense business in the use of gas for fuel pur-
3401 poses in Milwaukee at a price of 60 and 80 cents and there they are allowed to use soft coal, while in New York, as I understand it, soft coal is tabooed and therefore they have to use a more expensive coal.

Q. They would not use soft coal in furnaces anyway, would they?

A. They do to some extent in the West.

Q. On page 23 of this Chicago pamphlet which I have borrowed from Mr. Burr I find he states that "Gas at $1.00 per thousand for lighting is the cheapest artificial light that we have the privilege of using to-day. Gas cannot be used for general heating purposes until it gets down to at least 50 cents a thousand. A small number of customers could be secured to use gas for heating at that price. It would not begin to be as cheap as anthracite coal until it gets down to about 30 cents a thousand. At 30 cents a thousand gas is about as cheap for the consumer as anthracite coal at $6.00 a ton. To produce this result it should be used with a hot water heating system. To be used in connection with a hot air furnace the price must be reduced to 20 cents in order to be equal to anthracite coal at $6.00 a ton." Have you any quarrel with that proposition of Mr. Cowdery?

A. He has put it a little too extremely. I have found that by using natural gas in my own house, where I have a bill of about $150 for natural gas for heating and lighting, artificial gas at 30 cents being equivalent to natural gas at 18 to 20 cents, that I have saved $50 a year. My bill has fallen $200 to $150.

Q. There are more heating elements in natural gas than in artificial?

A. Well, that has been my experience, which I have worked out

quite carefully, which makes me believe that statement which you have just read is a little too extreme.

Q. But not very much, is it?

A. Yes, I should say 5 or 10 cents. But I was not talking
3402 about the general substitution of gas for coal for general heating the year round when I say that at 80 cents it would make great inroads on coal.

Q. If, of course, you deliver more gas to the consumer for the same money than you delivered originally, you must have a greater capital account in order to produce this additional gas that you deliver, must you not?

A. The capital account——

Q. Well, would you not?

A. Yes, but not proportionately.

Q. Don't say "but." You have been all over that once, and I am calling attention to certain points in your testimony.

A. If I say yes, then on some other case, if not here, some one else will bring it up——

The MASTER: We have no concern with that. You will oblige me very much if you will answer these questions directly.

Q. The fact is then that it would mean an increase of the capital account for the delivery of a greater quantity of gas, would it not—greater or less?

A. Not in all cases.

Q. So that even if the sales were sufficiently increased so that the net profit was the same, that profit would have to be applied to pay a return on a greater amount of capital?

A. Yes, in most cases, not in all.

Q. We will see about that. Taking this table No. 19 and the cities which you yourself have chosen, that is in Massachusetts where you remarked a few minutes ago the assets could not be padded as they were in other parts of the Union, you take Cambridge for the year 1894-5, that is the year before the first reduction, and 1896-7, which is the year after the first reduction, and you then take the year 1897-8, the year before the second reduction and the year 1899-
1900, the year after the second reduction, and you show what
3403 the increase is in feet sold. Now, it would be a fair thing, would it not, in order to determine whether the assets increased with the sales, and in what proportion, to see how much the sales increased in per cent. from the year 1894-5 to the year 1899-1900, that is the earliest and latest years and compare that with the increase in assets of the Cambridge Company during the same period?

A. If one could determine the extent to which the assets were due to that increase, and to what extent they were a preparation for the future, in other words, if one could determine the condition at the beginning and end with reference to its sales, that would be a very good method.

Q. But a company always has to make some preparation for the future, has it not?

A. Yes, but——

Q. And is it not fair to assume that it had made as much preparation for the future in 1894-5 as it had in 1899-1900 relatively?

A. But it would be a pure guess as to any one company. If you could average a hundred it would be a fair average probably.

Q. Would it not be a fair thing to take all the companies you have recited here in Table 19 and find what the result was, applying that method to the entire lot?

A. It would be fairer than to take one company.

Q. Let us take those and see how we come out on your theory. You have not the eleventh report of the Massachusetts Gas Commission here. That is, 1894-5, have you?

A. No.

Q. Well, I have. If I am correct, by that report the assets in 1894-5 were $971,547.47.

A. Speaking of the Cambridge Company now?

Q. Yes. Is that right (handing book)?

A. Yes.

Q. And in 1899-1900, as appears by that report, were they not $1,075,204.54?

A. $1,075,204.54.

Q. Now the gas profits appear in the year 1894-5 to have
3404 been $107,344.24, don't they?

A. That is right, $107,344.24.

Q. And in the year 1899-1900, they appear to be $103,241.65, don't they?

A. Yes.

Q. Or less than they were in 1894-5?

A. Yes.

Q. So that the gas assets in the year 1899-1900 were 1.11 times the assets of 1894-5?

A. The assets were about that increase, I should think.

Q. While the profits were only .96 as much as they were in 1894-5?

A. I should think that was about the ratio.

Q. You did not take these various companies and compute throughout, did you, to find out whether the same result obtained on the average through them all?

A. No, I did make——

Q. You don't know therefore, whether the assets increased much more rapidly than the profits?

A. I made a computation with reference to Boston and found that during a period which I studied, the assets did not increase as fast as the sales. And I have found that generally true of all companies.

Q. You did not make a computation covering these cities, Professor, to determine what proportion the increase in assets between the first and last years mentioned for each one of these companies bore to the increase of sales between the first and last year, did you?

A. No, I simply tried it on Boston during the period in which the price fell from $1.35 to $1.00.

Q. No, but you said it was not fair to take one city, but you would have to take a number of them.

A. That is the only one I took anyway.

Q. Because Boston was more nearly like New York than any other city in general conditions?

A. No, but it was an extreme fall of thirty-five cents in two years and I had the time to take that, so I stopped to do it. I was
3405 quite surprised at the result because there was a new company almost starting in then, the Brookline Company.

Q. You still subscribe to the statement that if you take a large number of companies the result obtained by them will be more satisfactory than taking one city?

A. Yes, but I consider the results in Massachusetts will be very difficult to obtain from any such statement as the Commission returned on assets.

Q. But it is the best information you have, and these Commission reports are the various reports from which you have taken much of the data you have stated here?

A. In order to conceal their profits they are applying to construction all the time the money that should be classed as profits.

Mr. MATHEWSON: I move to strike that out.

The MASTER: Strike it out.

Mr. BURR: I object and except.

Q. If the companies of Massachusetts did pad their assets, which I understand to be contrary to what you originally asserted here, by taking money and putting it into new construction and additional plants without so charging it, then the assets of these companies would be greater instead of less than they appear on the reports of the companies, would they not?

A. I don't understand exactly the question except to say that their assets are larger than their stock and bonds.

Q. Well, that is another proposition. I have not said anything about stocks and bonds, but I am talking about their assets.

A. That is their assets claimed in their report.

Q. I am directing the question to the point you raised, that an increase in the sales of gas would mean a very small or proportionately small increase in the assets of the company on the
3406 ground the main increase would be in meters, services and things of that kind.

A. It would not be a proportionate increase.

Q. It would not be a proportionate increase. You have spoken of the increase in the Consolidated Gas Company in sales from 1884 to 1905 being from 3,942,000,000 feet to 13,283,000,000 feet, and during that time the plant of the Consolidated Gas Company increased about $9,963,000, as you stated?

A. It increased that according to that exhibit.

Q. The statement is somewhat wrong, because the $196,000 is left out of that and no working capital is in there, and so forth. But taking your testimony, as you gave it on that point, don't you know that in 1884 the Consolidated plants acquired from the six constituent companies already had a capacity considerably in excess of their sales of gas at that time?

A. I believe they did.

Q. And you know, to-day, don't you, according to the evidence here, that the plants are being run to their full capacity and that they are still unable to make the gas that they sell?

A. Yes, but I don't know of any evidence as to the extent of the surplus capacity in 1884. There was an excess, but how much I don't know.

Mr. BURR: What plants are you speaking of, of the Consolidated Company, or of the subsidiary companies?

Mr. MATHEWSON: Either, if you please. I am speaking of them at the time the consolidation took place and they then became the Consolidated Gas Company.

Mr. BURR: You speak of to-day, do you mean the plants of the subsidiary companies?

Mr. MATHEWSON: No, I am speaking of the plants of the Consolidated Gas Company.

3407 Q. So that the increase of assets from 1884 down to 1905 would not be a fair estimate of the required increase of assets to produce the increased output of gas, would it?

A. I so stated, I think, that there should be some allowance made for that.

Q. You did not state how much allowance, and you have not been able to compute from any data before you, have you?

A. No.

Q. What do you mean exactly by the statement that if a company can stand a reduction of any given amount it can still stand a reduction of eight or ten cents more?

A. That is, if it can stand a reduction on the assumption that the sales will remain stationary, which is the point on which I meant to use the term. That is, if the Consolidated Gas Company, on the basis of the sales of 1905, could stand that reduction to, we will say, 85 cents, then there will be such an increase in sales that it would make as much on 80 cents in the future as it would have made on 85 cents in 1905.

Q. Now, I am going to call your attention to Table 19, which, for all these Massachusetts cities, showed that during this period when they had this large increase in output of gas and the prices were somewhat reduced, the net profits at the end of the period were almost exactly what they were at the beginning of the period?

A. That is the year after the change. They were about the same as the year before the change, a slight increase but not much.

Q. But you do not mean quite that, because some of these changes took place in 1894-5, and there is a second change in 1897-8.

A. No, but I took each one as a separate entity. I think I made a fair statement there.

Q. Assuming that the Consolidated Gas Company was able to afford a cut in its price of gas to, we will assume, 90 cents, and would then just show profit enough to make a return on its capital

3408 at a reasonable rate and subsequent to the cut it delivered more gas to the consumers or showed such an increase of gas

that the net profits were the same, how could it afford a further cut, the net profits being just the same afterwards as they were before, in spite of the larger output of gas?

A. But that is not a right interpretation of that table?

Q. Well, but the table shows, does it not, that the year after these cuts net profits were practically the same, almost exactly the same as they were the year before the cut?

A. Yes, but the first one——

Q. We will apply that to the Consolidated Gas Company, and suppose they made a cut of 90 cents and the year after the cut was made they only showed the same profit that they showed the year before the cut was made; they got less for their gas but sold more and got the same profit, how does that prove they could make another cut of ten cents and be just as well off?

A. Now, we will see if I can illustrate it by concrete figures. The profit that was read from an exhibit this morning as having been made last year amounted to how many million dollars? There was a figure given there in an exhibit.

Q. $4,000,000 and over, Exhibit 96, 1/20th of $91,000,000 and a little over.

A. I have it here, $4,587,995.99. Now, suppose that a reduction of 10 cents would reduce those profits by a total output of 1905 multiplied into ten cents or approximately $1,300,000, that would leave $3,288,000 approximately as the assumed profits the year after the reduction, if the reduction of ten cents were made. Now, assume that $3,288,000 is reckoned as a sufficient return to allow a reasonable profit on the structural value of the plant properly interpreted, whatever that may mean; assume that for the moment.

Then my statement was intended to be that as far as that
3409 table would tend to establish anything it would establish the fact after the reduction did take place to 90 cents——

Q. That is two years later?

A. Yes, the year after the reduction——

Mr. BURR: And supposing there was no increase in consumption?

The WITNESS: No. That table would tend to establish the fact that if the reduction were made, we will say, early in 1906, then in 1907 the profit would continue to be $4,587,996. But we have already assumed for the purposes of comparison that the company can stand a reduction to $3,288,000. Then if it can stand a reduction to $3,288,000, then it can stand a fall to 80 cents, the fall to 80 cents leaving the profit still at $3,288,000, because of the enormous increase in sales. But there is a fair statement to be made, that some increase in plant would be necessary, and I do not mean to deny that, but so far as any implication can be drawn, and I hold there can, then to that extent if a company can stand a reduction of a certain amount it can stand a considerably larger reduction.

Q. But when is this thing to end? Is the theory to continue until you get down to zero?

A. I stated in my direct-examination—I made some statement providing always that the profits continued to be above operating

expenses and enough to allow—that assumed a reasonable margin on the structural value.

Q. Then the whole computation rests on the preliminary determination of what the structural value is and what a proper return on that is, does it not?

A. It starts with that and figures on then that if can can from that justify a reduction of a certain sum on the basis of last year's business, future business will justify your making a larger reduction.

3410 Q. And that will always be so down to what figure?

A. It is very difficult to say, but it would continue to a considerable extent.

Q. Let me ask you another question. If you make a reduction from one dollar to 90 cents, that cuts off only ten per cent. of your gross receipts, but it cuts off a very much larger percentage of your profits, does it not, because they are the difference between the cost of gas and one dollar?

(No reply.)

Q. In other words, if the gas cost 70 cents and is sold for one dollar, and you cut to 90 cents, you are cutting off 33⅓ per cent. of the profits, although you cut off only ten per cent. of the gross receipts of the company, that is clear, is it not?

A. I started out with the assumption that we can stand a cut in profit to $3,288,000.

Q. I understand.

A. So that it is independent of the question of what the price of gas would reduce it. We start with the question of how low the profits can be reduced, and having fixed that, we will fix sales at such a price as on the basis of the operating expenses of 1905, will reach this sum.

Q. And I am trying to reach the limit of your theory.

A. There are no definitely fixed or mathematical limits.

Q. Would not a reduction from 90 cents to 80 cents make a greater difference than from one dollar to 90 cents, the sales being necessarily greater on your theory?

A. A reduction from 90 cents to 80 cents would make a greater difference than a reduction from one dollar to 90 cents, you say, in the profits?

Q. Yes, the sales necessarily being greater under your theory, as we reduced the price?

A. I don't know that I have stated that the proportionate increase is a greater per cent. of reduction in price, which is apparently what is back of your question. I don't remember making any such statement.

3411 Q. But I say, would not a reduction from 90 cents to 80 cents make a greater difference in the profits than one from one dollar to 90 cents, the sales necessarily being greater under the reduced price, according to your theory?

A. I don't quite see how that would follow.

Q. You are aware, are you not, that the city of London, next to the City of New York, consumes per capita the most gas?

A. That has been this testimony in this case and I have no reason to doubt it.

Q. Don't you know that when a reduction was made in the price of gas in London a few years ago, and a very substantial reduction, that the increase in consumption was less than one per cent. per annum, based on the previous year's sales?

A. No, I know nothing whatever about that.

Q. And if that were so, considering the character of the London climate, that would be quite a strong piece of evidence, would it not, that after you had reached a very high per capita of sales the increase beyond that reduction of price would be moderate?

A. No, not necessarily unless it were confirmed by the experience of Sheffield, which has made still greater reductions and still further cities and companies; there might be special circumstances connected with the London reduction. I know nothing whatever about it.

Q. Now, in this Chicago pamphlet, and I will ask you to correct me if I do not quote properly, Mr. Cowdery says: "Increasing the output usually cheapens the cost of production. Among gas men it is usually assumed that in the case of manufacturing the cost was usually decreased in the works until it reached a million cubic feet daily capacity. The second million would not cost much less than the first. I doubt if one could distinguish between the cost of
3412 operating a plant of 20,000,000 capacity and the operation of four plants of 5,000,000 capacity each. I think the cost per thousand would remain practically the same whether you manufactured 20,000,000 or 40,000,000 feet. This would be true in the case of either a coal or water gas plant." Considering Mr. Cowdery's experience, would you not be prepared to accept that as strong evidence of the fact which he states?

A. Certainly, it has a bearing on it and tends to—it is a point in the evidence, certainly.

Q. And I read further from the statement: "Increasing the number of consumers to each mile of mains does not materially cheapen the cost of gas. This is especially true after reaching a certain point. The difference in cost would not be sufficient to warrant a reduction in price." Now, I understand in spite of Mr. Cowdery's large practical experience that you, who have had no experience in operating a gas plant, differ substantially from that proposition, do you?

A. Yes, I do to this extent, that as between companies similarly situated, increased sales are not accompanied by corresponding increases in distribution expenses usually, and that can be established by the statistics of Massachusetts and Great Britain, so that I consider I am as competent to study those facts as an engineer would be.

Q. Yes, but you misconstrue Mr. Cowdery a little, because he says that increasing the number of consumers to each mile of mains does not materially cheapen the cost of gas. That is to say, he refers to the cost of gas at the burners, and takes into consideration the additional plant required to produce the gas as well as any additional distribution expense?

A. But he has stated that the manufacturing expense does not change. If that does not change and if the total does not
3413 change according to his testimony, then there could be no change in the distribution expense, but I have found in my study of the statistics on the subject that there is a change in the distribution expense. There is a tendency to reduction.

Q. But we saw the other day, did we not, that the City of Boston, which had a very much greater distribution that the seven next largest cities in Massachusetts had a distributing expense of 18.76 cents, while those seven cities next averaged only 17.03?

A. I would say we did.

Q. And we found also on that basis that the cost of distribution in New York, 16.94, for the nominal year as you figured it, taking the same items for comparison, was less than either Boston or the seven next largest cities in Massachusetts, did we not?

A. That it was less than the seven next to Boston. I think it was less than Boston.

Q. Yes, nearly two cents.

A. According to that table.

Q. And a little less than 16.94 as against 17.03 when compared with the seven next largest cities named?

A. Yes.

Q. I would like to ask you one question in reference to your hypothetical figures on New York. The profits of the company for the year 1905 appear in Exhibit 96 to be $4,987,995.99. That at ninety cents which you figured with would mean a reduction of $1,300,000?

A. I am not sure about that. I took that for an assumption for the amount. But I afterwards modified that and said I was—I am not sure about that at all, but I said that if the profits would stand—if a price were finally fixed which would cut off $1,300,000 of profits so as to leave the profits $3,288,000, then a still lower price would still leave those profits.

3414 Q. Now, assuming that we were to reduce the gas to 90 cents, that would cut off $1,300,000 from the net profits, would it not?

A. I do not say that now. I should want to take that off from the gross receipts.

Q. Well, on the same sales of gas, assuming the profits to be as stated, $4,587,000 at one dollar, and the price of gas was reduced to 90 cents, it would mean a loss from that source of about $1,300,000, or ten cents per thousand feet, would it not?

A. It would seem so, but I would not—I am not so absolutely positive——

Q. It would on that number of cubic feet, would it not?

A. It looks so now to me on that number of cubic feet.

Q. How much more gas would the company have to sell to make up that $1,300,000, provided gas was costing it 65 cents at the burners?

A. Then the profit on that basis——

Q. In other words, how many thousand feet would it have to sell to bring its net profit back to the original figure?

A. The difference between sixty-five and ninety or twenty-five cents would seem at first the proper margin, but it would not be because taxes would probably not increase proportionately. Certainly distribution expenses would not.

Q. I don't know why you think that, because taxes have been increasing every year.

A. If the profits were declining there would not be an increase in taxes from that source. It may be taxes will increase for other reasons but distribution expense would decline with increase in sales. That is, per thousand feet. But I will take your supposition in the way you give it without assenting to the basis for it and figure out what number of feet at twenty-five cents a thousand feet profit would be necessary to make a profit of $1,300,000, which I understand would be four times as many thousand feet as there are dollars, or 5,200,000,000 feet.

3415 Q. In other words, it would require an increase of 5,200,000,000 feet over the present sales of 13,283,000,000 feet or forty per cent., in order to make up to us that $1,300,000 which we lost by reducing the price of gas to eighty cents, would it not?

A. On those two suppositions. The gas costs you 65 cents now and that there would be any reduction per thousand feet with the additional sales.

Q. And that is without taking into account the additional plant that might be required to produce this additional gas and the consequent requirement for a larger return on capital?

A. Unless the capital was to increase faster than the sales of gas that suggestion of yours would not apply.

Q. But we are simply getting at here the amount of the net profits before any application is made of capital at all.

A. No. You have assumed there was a twenty-five cents margin for profits per thousand feet.

Q. Yes, precisely.

A. No, your last suggestion that there would be less than twenty-five cents profits because of necessary increase of capital would not hold.

Q. Wait a minute. I haven't made any such suggestion as that at all. I mean by profits the difference between the cost of gas at the burner, with proper allowance for reserve fund and so forth included, if any should be, and the selling price of the gas, nothing for return on capital coming out of that at all as yet. And would it not be true, as I said, that this result which you have just testified to would be without taking into account the fact that we would require a larger plant to produce the gas and a greater requirement for the return on capital to come out of the net profits?

A. That would apply to the 5,200,000,000 feet. It would not apply to the twenty-five cents margin.

3416 By Mr. BURR:

Q. Why not?

A. Because the twenty-five cents margin would still continue unless the property was to increase faster than the sales.

By Mr. MATHEWSON:

Q. Yes, but the point is this, having sales of 13,283,000,000 feet and having cut $1,200,000 off our net profits, as shown in Exhibit 96, by reducing gas to ninety cents, in order to get our net profits back where they were originally, as shown in Exhibit 96, we would have to use, if gas costs say sixty-five cents at the burner, 5,200,000,000 cubic feet more than the present 13,283,000,000 cubic feet in order to restore the profits to what they were originally?

A. On the suppositions you give I should say yes.

Q. And that would be without taking into consideration at all the increased value of plant and the requirement for a larger amount to pay a return on the increased plant?

A. Yes.

Q. Now there is one thing which I think you have left out of consideration in this case. Most of the cities which you have been considering have been cities which have suburban sections which have been growing up, growing quite rapidly, and where there is a chance for further growth within the territory of the company which you were considering, were they not?

A. They have been situated that way principally.

Q. Now in the Island of Manhattan you understand that it is surrounded by water and that this company has no right to sell gas outside of the Island of Manhattan? And you understand do you not, that there are no suburbs to which the company can deliver its gas, so it will not benefit by the growth of the Borough of The Bronx or Queens or Brooklyn?

A. I understand that.

3417 Q. And would you expect the same percentage of increase to take place under those circumstances as takes place in a city with large suburbs which are constantly growing. Isn't that a serious thing to be considered?

A. I allowed for that by looking into the increase in population. It seems to me that the census establishes the fact that the growth has continued on the Island and will for the next five years represent a rate that it has averaged for the last twenty years.

Q. Don't you know that the Borough of The Bronx is increasing in population very much more rapidly than Manhattan Borough?

A. Yes.

Q. And that the sales of gas are increasing very much more rapidly there than in the Borough of Manhattan?

A. That is true.

Q. And don't you know that some portions of the Borough of Manhattan which formerly were residence districts have grown up to be business districts and that their population is constantly decreasing?

A. Yes, but I believe the Borough of Manhattan has increased as fast and is likely to for the next ten years as the Massachusetts cities I took, although I have not looked that up, but I know New York has been increasing very fast, faster than the average American city.

Q. Do you refer to the Borough of Manhattan when you say New York?

A. The Borough of Manhattan has been increasing fast too.

Q. You know a commission on additional water supply for the City of New York was appointed some time ago consisting of engineers, Messrs. Burr, Herring & Freeman, do you not?

A. Yes.

Q. Will you look at page 67 of the report of that committee and say what that committee estimates the population of Manhattan to be in 1925?

3418 Mr. BURR: That is objected to as incompetent, immaterial and irrelevant; the Commissioners are not here so that we may cross-examine them and find out the reason for their deduction as to the population of that year to which you refer. You called Professor Marks' attention to that.

Mr. MATHEWSON: I am going to call Professor Bemis' attention to it also and ask what effect that has upon his opinion of the increase of population, or something of that sort.

Mr. BURR: For the purpose of that report, in special instances, they may have found that that would be the population, but that is not binding on us.

Mr. MATHEWSON: They may have made a mistake.

The WITNESS: I am not looking as far ahead as 1925.

Q. What do you find the population to be according to that estimate?

A. 2,130,000.

Q. That population is only equal to the population at the present time as given by Dr. Marks, and if the estimate of this Commission was to be accepted as an authority it would show, would it not, that an estimate of a very great increase in Manhattan within the next five or ten years was subject to question?

A. So far as that is concerned it would have that bearing but I think I have seen census figures indicating an increase of considerable in the last five years.

Q. You haven't seen census figures up to 1925?

A. No; 1905 as compared with 1900.

Q. Speaking of conditions under which we operated, do you know any city east of Ohio, with the exception of this eight-five-cent rate in Boston, which is selling gas at less than ninety cents per thousand cubic feet?

A. I do not.

3419 Q. And do you know of any cities outside of Massachusetts which are selling even for ninety cents?

A. East of Ohio?

Q. Yes.

A. No.

Q. And the Massachusetts candle-power as you stated the other day is 16 as against our 22, so that there must be some allowance made in making comparisons for that difference, must there not?

A. That is one of the points for which some allowance must be made.

Mr. BURR: The evidence is that gas is made here and produced under the most favorable conditions that exist in this country.

Mr. MATHEWSON: That is the testimony of Professor Marks.

Mr. BURR: No, I think Mr. Bradley assented to that.

Mr. MATHEWSON: Well, the evidence shows.

Q. Now, Mr. Shearn, whom you say retained you for appearance before the Gas Commission, did not personally conduct that case, did he, on behalf of the complainant?

Mr. BURR: Objected to. I do not see what Mr. Shearn or Mr. Hearst or anybody else has to do with this case.

Mr. MATHEWSON: I will develop it in a moment so that you will see what it is.

Mr. BURR: Well, what is the object, Mr. Master?

The MASTER: Well, I do not know.

Mr. BURR: If we are going into that I think we should be informed ahead of time what is the object of Mr. Mathewson's question.

The MASTER: There is no objection to the preliminary question.

Mr. BURR: Well, what is the object of it?

3420 Mr. MATHEWSON: It will appear in a moment.

Mr. BURR: Shall I be obliged to call Mr. Shearn here and Mr. Hearst?

Mr. MATHEWSON: No, I don't think so. I don't think it will be disputed.

Q. Who was Mr. Shearn's associate or representative who conducted the case before the Gas Commission for the complainant, at which Mr. Shearn appeared as attorney of record?

A. Mr. Ford.

Q. Mr. De Ford?

A. Mr. De Ford.

Q. And it was he with whom you had your conferences and he who examined you before the Commission?

A. Yes.

Q. And he you would say was a young man of ability and discernment, wouldn't you?

Mr. BURR: Objected to. We are not giving a certificate of character to either Mr. Shearn, Mr. Hearst or Mr. De Ford in this case. I do see its pertinency.

The MASTER: I do not think that is of any great importance.

Mr. BURR: Maybe I would admit it if you will tell me what you want to prove.

Mr. MATHEWSON: What is the ruling?

The MASTER: I have no objection to your going on only I do not see how it is material.

Mr. MATHEWSON: I have only one or two questions on this point. I think my purpose will appear in a minute.

The MASTER: What is the object of it, as to whether Mr. De Ford was an able man or otherwise?

Mr. MATHEWSON: If the Master rules the question out I shall accept that ruling, of course.

The MASTER: I will rule it out then.

3421 Mr. MATHEWSON: I won't press it.

Q. Mr. De Ford, you know, was the representative before the Gas Commission of Mr. Shearn from beginning to end.

Objected to as incompetent, immaterial and irrelevant, not bearing on this question at all.

Question allowed; exception.

A. Yes, I so understood.

By Mr. BURR:

Q. You have no doubt that Mr. De Ford did his full duty at that investigation?

A. No.

Mr. BURR: If that is what you are trying to prove, I will admit that.

By Mr. MATHEWSON:

Q. Now, I show you the minutes of a hearing before the Senate Finance Committee at the capitol at Albany, New York, February 16, 1906, which was subsequent to the conclusion of the testimony before the Gas Commission where Mr. De Ford appeared in favor of the eighty cent gas act which had been passed and which is here the subject of attack. If you have any question about it, Mr. Burr, I will present to you the volume.

Mr. BURR: Does this purport to show what Professor Bemis said on that occasion, or does it purport to show what Mr. De Ford said on that occasion?

Mr. MATHEWSON: It does not purport to show what Professor Bemis said on that occasion, because Professor Bemis was not there.

Mr. BURR: If it purports to show what anybody else said

3422 on that occasion, I object to it as incompetent, immaterial and irrelevant.

Mr. MATHEWSON: I propose to read here very briefly what Mr. De Ford said upon the subject of the economical management of this company and then ask Professor Bemis in view of his testimony and the expressions of Mr. De Ford at that time whether he is not prepared to modify his expressions as to possible extravagant management of this company?

Mr. BURR: If that is admitted I propose to show what political economists have said as to the management of gas companies all over the United States.

The MASTER: Not before me.

Mr. BURR: I insist upon my objection. This certainly is incompetent, immaterial, and irrelevant. Though I have the highest regard for Mr. De Ford and I am fully assured he did his full duty before that Commission, at the same time what he said in the capitol at Albany on a given occasion after the meeting of the Commission

terminated, certainly we would not be bound by, and I don't know what it is.

The MASTER: I think that is stretching the thing pretty far, Mr. Mathewson: It might very well be proper cross-examination to take some well known text-writer or expert and quote his views and ask if they modified the Professor's opinion, but when it comes to getting down to the question of individual counsel and individual investigation, I think that is going pretty far.

Mr. BURR: I have Mr. Mathewson's brief here which I would like to read to you which he presented to the Governor, contradicting some of the assumptions he has assumed in this case.

3423 The MASTER: I will sustain the objection and you can have an exception.

The WITNESS: I would like to assert that I would not like to be interpreted as saying that I had any direct knowledge as to who paid Mr. Shearn's bills or Mr. De Ford's. I never knew anything about it.

Mr. MATHEWSON: Oh, no, of course not. Now I will read from these proceedings before the Committee as follows:

"Senator CASSIDY: In a spirit of temperate discussion, have you examined into this company's affairs so that you know whether they are economical?

"Mr. DE FORD: The only knowledge I have got is what I have received by two months association with Mr. Mathewson and Senator Page and the Commission. But I would say that it appears to me, so far as I can tell, that they are economically managed. That is to say, that all depends; I want to qualify that in this way. They handle their cartage, which is a saving of money to them. They save cartage through the instrumentality of the National Coke & Coal Company. But whether those items are true or not, I don't know. I wouldn't be satisfied with it if this was litigation; for if I could spend the next two years in going through their books I wouldn't be satisfied with the statement.

"Senator CASSIDY: Are they doing eevrything possible to realize the largest profit from their concern? Have they got a capital account?

"Mr. DE FORD: I couldn't tell that. I know that they are very smart men. They are watching every corner where they can save a penny.

3424 "Senator CASSIDY: Employ the most skilled help?

"Mr. DE FORD: Everything that affects the reduction of their cost.

"Senator CASSIDY: So as to get large profits?

"Mr. DE FORD: So as to get and keep large profits.

"Senator CASSIDY: You don't think there is any concern——

"Mr. DE FORD: I think they are trying to make all the money they can and manufacture gas as cheaply as they can."

In the two lines which I read as follows: "Mr. De Ford: Everything that affects the reduction of their cost," in the typewritten copy of the minutes of this debate received from the stenographer, the word "cost" appears as "property," I have changed the latter word

in lead pencil to read "cost." Now have I correctly quoted all I have read, or are you willing to accept my reading as accurate?

A. I know nothing about it except I heard you read it.

Q. I am quite willing you should look at it if you have any doubt about my having read it inaccurately.

A. I think it had better go in as your testimony and not mine.

Mr. BURR: We have no doubt you read it correctly.

The WITNESS: If you state you have read it correctly, I have no reason to think you did not.

Q. Now, assuming that as the statement of Mr. De Ford who was present, as you have said, before the Commission from the beginning to the end, and who was the associate of Mr. Shearn and who examined you, have you any doubt that the company was economically managed, as Mr. De Ford states was his conviction.

3425 & 3426

A. I can only judge by the evidence.

Q. You still, from what I have read and in spite of Mr. De Ford's view, maintain the position which you stated at the outset, do you?

A. I do. I do not mean to say that on re-direct examination I shall not take occasion to slightly modify one or two tables, but I mean to say in general my position remains.

Mr. MATHEWSON: I have no more questions.

Mr. BURR: Have you finished now your cross-examination?

Mr. MATHEWSON: I have.

Following a colloquoy between counsel and the Master the re-direct examination of Professor Bemis goes over till Monday, October 29th, 1906.

At 4.15 p. m. adjourned to October 26, 1906, at 12 o'clock.

Last Exhibits:

Complainant's, 156.
State's, W,
City's, 59.

3427 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, FRIDAY, *October* 26, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Mead, Mr. Burr.

3428 JOHN M. THOMPSON, recalled on behalf of the City, testifies as follows:

Direct examination by Mr. BURR:

Q. Have you appraised the property of the Consolidated Gas Company on the west side, as it was prior to the acquirement by the City of New York?

Mr. MATHEWSON: You mean the real estate?
Mr. BURR: I mean the real estate and land.

A. Yes.
Q. Will you describe that property?
A. The first is Block 688, being the entire block bounded by 16th and 17th Streets, Tenth and Eleventh Avenues.
The next is Block 689, being the entire block bounded by 17th and 18th Streets, Tenth and Eleventh Avenues.
The next is Block 690, fronting 184 feet on Tenth Avenue, twelve lots on the southerly side of 19th Street, and seventeen lots, or 425 feet, on the northerly side of 18th Street.
The next is Block 691, fronting 184 feet on Eleventh Avenue; ten lots, or 350 feet, on each street.
The next is Block 666, lot 3, which is an irregular plot, bounded by 16th and 17th Streets, Eleventh and Thirteenth Avenues.
The next is Block 666, lot 12, an irregular block, bounded by 17th and 18th Streets, Eleventh and Thirteenth Avenues.
Q. Is this the same property that was appraised by Mr. Wheelock and Mr. Preiss?
A. Yes, sir.
Q. Now, will you take them up in their regular order and state what in your opinion was the value of each parcel?
A.—
Block 688, $639,860.00.

Block 689, $639,860.00.
3429 Block 690, $363,600.00.
Block 691, $285,460.00.
Block 666, lot 3, $74,280.80.
Block 666, lot 12, $119,834.19.
And there is another thing I should have given—a bulkhead between 17th and 18th Streets, $94,375.00.
Bulkhead between 16th and 17th Streets, $94,375.00.

Cross-examination by Mr. MATHEWSON:

Q. Are these figures which you have given for the first four blocks, 688, 689, 690 and 691, figures for the entire blocks before deduction was made for the 18th Street improvement, or is it merely the valuation you placed upon that portion of those blocks that was taken by the City?

A. Why, no, sir. It embraces the entire blocks 688 and 689, which were owned by the gas company, and the entire portion of 690 which was owned by the gas company, and the entire portion of 691 which was owned by the gas company; all before the city acquired any of it.

Q. In other words, that is the valuation of those blocks, or of that portion of those blocks that the gas company owned before the improvement?

A. Yes.

Q. And not the valuation of merely the part that was taken by the city?

A. No, sir.

Q. And did you use the same unit values in reaching these totals for those four blocks that you used in computing the value of the portions still left to the company, in your original testimony?

A. I did not.

Q. What variation did you make, and why, in these blocks, from your original figures?

A. I could not tell you the exact figures, for I haven't the papers with me; but I put a less value on this property prior to its
3430 acquirement by the City of New York. I gave a greater value to that which remained for the reason that the property had been very much improved by the new marginal street, new piers, new steamship companies going there.

Q. You mean you put a higher value in your original testimony on the part that was left to the company and a proportionate value as it existed before the improvement?

A. Yes.

Q. So that these figures here represent a lower value relatively than you gave in your original testimony for the property still left to the company?

A. Yes, sir; somewhat lower.

Q. Will you give me the basis of valuation that you now employ in reaching these totals for each of these blocks?

A. Northeast corner of Eleventh Avenue and 16th Street, 2,500 square feet at the rate of $19,000 per lot, or $7.60 per square foot, $19,000.

Lot adjoining corner, 2,500 square feet, at the rate of $12,500 per lot, or $5.00 per foot, $12,500.

Four inside lots, 8,400 square feet, at the rate of $11,500 per lot, or $4.60 per square foot, $38,460.

Lot adjoi-ing the corner of 17th Street, 2,500 square feet, at the rate of $12,500 per lot, or $5.00 per square foot, $12,500.

Southeast corner of Eleventh Avenue and 17th Street, 2,500 square feet, at the rate of $19,000 per lot or $7.60 per square foot, $19,000.

Forty-eight lots on 16th and 17th Streets, 2,300 square feet each, or 110,400 square feet, at the rate of $4 per square foot, or $10,000 per lot, $441,600.

Two corner lots on Tenth Avenue, 2,500 square feet each, at the rate of $16,500 per lot, or $6.60 per square foot, $33,000.

Two lots adjoining corners, 2,500 square feet, $13,000 per lot, or $5.20 per square foot, $26,000.

3431 Four inside lots, 2,100 square feet each, 8,400 square feet, at the rate of $4.50 per square foot, $37,800.

Total, $639,860.

Block 689, I arrived at the valuation there in exactly the same way, the blocks being identical.

Block 690, two corner lots on Tenth Avenue, 2,500 square feet each, at the rate of $16,500 per lot, or $6.60 per square foot, $33,000.

Two lots adjoining corners, 2,500 square feet, at the rate of $13,000 per lot, or $5.20 per square foot, $26,000.

Four inside lots, 2,100 square feet each, 8,400 square feet, at the rate of $4.50 per square foot, $37,800.

Seventeen lots on 18th Street, 2,300 square feet, each, 39,100 square feet, at the rate of $4 per square foot, $156,400.

Twelve lots on 19th Street, 2,300 square feet each, 27,600 square feet, or $4 per square foot, $110,400.

Total, $363,600.

Block 691, northeast corner of Eleventh Avenue and 19th Street, 2,500 square feet, at $19,000 per lot, or $7.60 per square foot, $19,000.

Lot adjoining the corner, 2,500 square feet, at the rate of $12,500 per lot, or $5 per square foot, $12,500.

Four inside lots, 8,400 square feet, at the rate of $11,500 per lot, $4.60 per square foot, $38,460.

Lot adjoining corner of 20th Street, 2,500 square feet, at the rate of $12,500 per lot, or $5 per square foot, $12,500.

Southeast corner of Eleventh Avenue and 20th Street, 2,500 square feet, at the rate of $19,000 per lot, or $7.60 per square foot, $19,000.

Twenty lots on 19th and 20th Streets, 2,300 square feet each, 46,000 square feet, at the rate of $4 per square foot, or $10,000 per lot, $184,000.

Total, $285,460.

3432 Block 666, Lot No. 3, containing 8,441 square feet, at the rate of $22,000 per lot, or $8.80 per square foot, $74,280.80.

Block 666, Lot 12, 2,076.39 square feet, at the rate of $22,000 a lot, or $8.80 per square foot, $18,272.23.

The next lot north, 2,219.37 square feet, at the rate of $14,500 per lot, or $5.80 per square foot, $12,872.35.

Four adjoining lots, 8,504.44 square feet, at the rate of $13,500 per lot, or $5.40 per square foot, $45,923.98.

Lot adjoining the corner of 18th Street, 2,842.87 square feet, at the rate of $14,500 per lot, or $5.80 per square foot, $16,488.65.

Plot on south side of 18th Street, 2,986.02 square feet at the rate of $22,000 per lot, or $8.80 per square foot, $26,276.98.

Total, $119,834.19.

Bulkhead between 16th and 17th Streets, 188.75 lineal feet, at $500 per foot, $94,375.

Bulkhead between 17th and 18th Streets, 188.75 lineal feet, at $500 per foot, $94,375.

By Mr. BURR:

Q. I allow you notice $500 for the bulkhead property that you speak of, and you only allowed $250 at 42d Street. What is the reason for the difference?

A. Well, the city acquired a great deal of that property down at $500 a foot. I don't believe those bulkheads should be made to pay on that basis, but I have allowed the value very largely on account of the increase of traffic that has taken place there, around from 18th to 23d Streets, such as the establishment of the Delaware, Lackawanna and Western Railroad ferry, the building of the new Erie ferry house, the Central Railroad, and things of that kind
3433 that have added very largely to the values down in that neighborhood.

By Mr. MATHEWSON:

Q. Do I understand it is questioned whether $900 per foot has been awarded at 22d Street?

A. I think so, yes, sir.

Q. You think it has been awarded?

A. I think it has not been.

Q. If it had been, or if it should be, would that modify your view of values at this point?

A. No, sir, because it cannot be made to pay on that basis.

Q. In your opinion?

A. Backed by the Dock Department rentals, sir.

MARTIN MCHALE, recalled for further examination, testified as follows:

By Mr. BURR:

Q. You have heard the testimony of Mr. Thompson in regard to the property that he has appraised?

A. I did.

Q. Did you appraise the same property?

A. I did.

Q. Will you describe it and give your valuation?

Mr. MATHEWSON: Is there any use of describing it over again?

Mr. BURR: Not if you do not want it.

Mr. MATHEWSON: I do not.

The WITNESS: Our figures are precisely the same. We examined it together and came to the same conclusion.

3434 By Mr. MATHEWSON:

Q. Did you reach them on the same basis of computation as to individual lots?

A. On the same basis of computation as to individual lots yes, sir.

Mr. MATHEWSON: I have no further questions.

Mr. BURR: That is all I have.

The MASTER: Call the next witness.

Mr. BURR: I will have Mr. Lacombe here after recess.

Recess until 2 p. m.

After Recess.

CHARLES F. LACOMBE, called as a witness in behalf of the defendant, the City of New York, being duly sworn, testified as follows:

Direct-examination by Mr. BURR:

Q. What is your occupation?

A. I am an engineer of light and power for the city of New York.

Q. How long have you occupied that position?

A. Very close to a year.

Q. And what were you before that?

A. I was engineer of surface construction for two years.

Q. For the City of New York?

A. Yes, sir.

Q. Has your attention been called to the item on Exhibit 94 in this case, of street lamps?

A. Yes, sir.

Q. Is it part of your duty as chief engineer or engineer to look after the lamps of the city?

A. Yes, sir.

Q. Are you familiar with the situation as it existed during 1905 with regard to street lamps between the City of New York and the Consolidated Gas Company?

A. Yes, sir.

3435 Q. Did the Consolidated Gas Company have a contract with the City of New York during 1905?

A. Part of it, up to Mach 16th, 1905.

Mr. MATHEWSON: You refer to a written contract when you say a contract.

The WITNESS: Yes, sir.

Q. Have you that contract with you?

A. No, sir, you told me you had a copy here.

Q. Well, it is in evidence here. Was there a written contract for the balance of 1905?

A. No, sir.

Q. What part of the year was the contract for?

A. The contract was from January 1st to March 15th.

Q. And do you know the reason why there was not a contract for the rest of the year?

Mr. MATHEWSON: Is that important? I object to it unless the materiality is shown.

Q. I will ask you whether as a matter of fact the bids that were made by the Consolidated Gas Company were not rejected?
A. Yes, all the bids were rejected.
Q. And what was the contract for, that you have referred to?
A. It was for furnishing and erecting and lighting and cleaning and extinguishing of mantle gas lamps and the supply of gas to them, including the repairs and maintenance of the lamps and was for the supply of gas to public buildings.
Q. And to the lamps?
A. Yes, and to the lamps, and for the repair of lamp posts according to a schedule.

By Mr. MATHEWSON:

Q. Was it not in the same form practically as the bids or
3436 request for bids of the previous years?
A. Practically, yes.
Mr. MATHEWSON: I think that form is in evidence, is it not?
Mr. BURR: I think so.

By Mr. BURR:

Q. Was the service for public buildings and street lamps continued during the rest of 1905 after the contract had expired?
A. Yes, it was fully performed so far as we knew throughout the whole year.
Q. Did the Consolidated Gas Company render bills for this service?
A. Yes.
Q. Have you the bills?
A. Yes, these are the bills, by months.
Q. Will you take one of them and state what that bill embraces?
A. This embraces the street lighting for the month of January in the Borough of Manhattan and includes all the lamps in the Borough of Manhattan and the proper contract performance that had to be gone through with these lamps, and they billed them, and in addition they billed the various changes that occurred during the month; a certain number of the lamps billed here are open flame lamps and the large majority mantle lamps, and they are billed at the same rate as specified in the contract period. This was during the contract period.
Q. How many lights are there that the Consolidated Gas Company supplies?
A. According to this bill, 16,236 mantle lamps and 746 open-flame lamps.

By Mr. MATHEWSON:

Q. Were not those open-flame lights the street corner
3437 lamps, the sign lamps, as they are called?
A. At that time they were, yes.

By Mr. BURR:

Q. Have you made an analysis of those bills?
A. Yes.
Q. Will you produce it?
A. Yes.
Mr. MATHEWSON: What bills? He has only referred to a certain bill. Do you mean has he made an an-lysis of each one separately?

Q. Of what bills did you make such an analysis?
A. I have taken each month for the year 1905 and made the analysis complete, both for the Borough of Manhattan and The Bronx, but they are presented separately in this analysis clear through the year.
Q. This analysis which you produced, marked Schedule I, is an analysis of the bills rendered by the Consolidated Gas Company for the year 1905?
A. Yes.
Q. What does that show?
A. That shows in the first column the charge per month for lighting, cleaning, extinguishing and taking care of lamps complete. In the second column it shows the repairs to lamp posts, complete. The third column shows the total of those two amounts. The fourth column shows an item we call "Miscellaneous Lighting," which consists of the lighting of four or five special lamps. In the fifth column are the bills for lighting, care and attendance of open-flame gas lamps. In the sixth column the care and attention and supply of gas to sign lamps, which were discontinued at the end of the third month, and also an item of repairs to lamp posts for street sign lamps. The last column shows the bills for lighting, care and so on, of single Welsbach lanterns in The Bronx.
3438 Q. Will you give the result of that analysis and totals as you figured them out?
A. This analysis checks exactly the bills of the Consolidated Gas Company and shows that the total bill for the Borough of Manhattan was $431,624.95.
Mr. MATHEWSON: For the calendar year?
The WITNESS: Yes, sir. In The Bronx it was $143,758.90, and the total bill of the Consolidated Gas Company for Manhattan and The Bronx was $575,383.85.
Q. What other analysis have you made of the bills?
A. Well Schedule I-a is an analysis giving the repairs of lamp posts in the Borough of Manhattan. There were none in the Borough of The Bronx for the year.

By Mr. MATHEWSON:

Q. Let me ask at this point, if I may, do these items of repairs

and all these other items on this analysis or these various schedules appear in the bills presented by the Consolidated Gas Company?

A. Yes.

Q. These are figures merely analyzing the figures which appear in the bills to which you referred at the outset?

A. Not so much analyzing them, but classifying them.

The MASTER: Grouping the various items?

The WITNESS: Yes.

Q. In other words, these are figure- of the company as classified and your own statement?

A. Yes. You see that second sheet is really the separation and classification of column 2 on the first sheet.

3439 By Mr. BURR:

Q. Will you continue your explanation of Exhibit 1-A?

A. That shows by columns the kind of repairs which the city ordered and which the Consolidated Gas Company performed and which were billed at the scheduled rates given in the contract, and that checked with the total as given on the first page, showing the total bill for repairs to lamp posts for the year was $10,986.50.

Q. You might proceed with the rest of those tables which you have prepared.

A. The rest of these tables, Mr. Burr, are only important in that we made them up in order to be dead certain that we could check the Consolidated Gas Company's bills. The slight differences that occur here are simply because we take it on the basis of actual days and turn those into actual lamp hours. The Consolidated Gas Company in billing single Welsbachs, for instance, charges at the annual rate of $24.75. They charge at a monthly rate of $2.06. Now, $2.06 is not a twelfth of $24.75, and on that basis the Consolidated Gas Company is really undercharging. In open-flame gas lamps, which is the result of the next sheet, they make that up practically by overcharging a little the open-flame lamps at the annual rate of $17.25, or a monthly rate of $1.44. That is a little too much, a little more than one-twelfth. They practically balance, so the difference is not of any account. The reason we differed at all from you is because we take the actual thing carried out to a fraction and take the actual number of days and hours.

By Mr. MATHEWSON:

Q. But there is not any difference that is substantial?

A. No, we only did it to be exhaustive, that is all, and
3440 that applies to Schedule 3-A, 3-B, 3-C and Schedule 3-D. There is one cent deficit. We tried to get as close as we could and Schedule 3-E is The Bronx, which is analyzed the same way. That brings us to schedule IV, which begins to get the analysis of the thing.

Q. What does schedule IV show?

A. Schedule IV shows our computation of their bills by getting them into the actual number of lamp days, that is, the number of days that one lamp would have had to burn to make this bill.

Q. In other words, it is an analysis of the gas consumption?

A. Then we turned that into lamp hours for the year. That was represented by the second column. Now, according to the contract, the minimum amount of gas that any of these lamps should take was three cubic feet. They took that and took more, probably.

Mr. MATHEWSON: When you say "they," you mean the city, the lamps?

The WITNESS: Yes. We calculated them on practically four different bases, in order to try and exhaust the subject. The first column gives the number of cubic feet of gas if the consumption is maintained at three cubic feet per hour. The next one gives it at three and a half cubic feet per hour. Then I understood from the testimony that Mr. Addicks had testified that in his opinion he thought the mantle lamps consumed 3.77 cubic feet of gas per hour, and the open-flame 4½ per hour, so we calculated what the consumption of gas would be if sold as well.

Q. And what is the result?

A. Well, of course, there are four results. The single Welsbach lamp at 3 cubic feet per hour, they would take 195,374,865
3441 cubic feet of gas, at 3½, 227,937,342; at 3.77 feet, 245,521,-080, and at 4½ feet, the open-flame lamps would take 9,923,566.

Q. What is this total?

A. Making a total on Mr. Addicks' basis of 3.77 feet for mantle lamps and 4½ feet for open-flame lamps, 255,622,213 feet in the Borough of Manhattan, and in the Borough of The Bronx on the same basis they would have taken 85,945,304, making the total consumption for street lamps in Manhattan and The Bronx of 341,567,-517. Schedule V represents the way of getting all these various rates of gas consumption into dollars. According to that, at 3 cubic feet, the number of feet used is given, and then the amount. The same way with 3½ cubic feet, and then on the basis of 3.77 feet and 4½ feet. And The Bronx is given in the same way.

Q. On the basis of the 3.77 cubic feet, what does that show?

A. It would show the total single Welsbach lamps would cost $220,968.97 for gas, figuring at 90 cents per thousand cubic feet, and miscellaneous mantle lighting would add to that $159.81. The open-flame gaslight would add to that $8,931.20 in the Borough of Manhattan.

Q. And on the basis of 3 cubic feet?

A. $175,837.38, plus $4,752.88, plus $1,201.26, plus $127.17. The same way at 3½ cubic feet would be the sum of $205,143.61 and $5,545.02.

Q. For open-flame?

A. Yes. These figures are both for open-flame and mantles. They are practically arbitrary figures. We did not split them, but averaged them. And $1,401.47 and $148.37, plus $71,811.06 in the Bronx.

Q. Turn to the next schedule.

A. The reason we did all this was to try to see if we could check on the amount for maintenance and make the amount due to the Consolidated Gas Company $289,000.

Q. As it appears on Exhibit 94?

A. Yes. We put this all into money, and if the con-
3442 sumption of gas is taken on either of these bases that I have given, subtracting that from the total bill would give you what the maintenance cost apparently would be. In no instance can we check the $289,000.

Q. You might state a little more in detail what this Schedule VI shows.

A. The first column shows the total of bills rendered for each of the different items. The second column shows the cost of gas if the lamps consume three cubic feet per hour, and subtracting that from column 1 would give column 3, which would be the cost of maintenance on that basis. In this case the total of the three columns will be $431,624.95, minus the cost of gas $181,918.69, leaves $249,706.26 for maintenance, but on the other hand, if we take 3½ cubic feet of gas per hour for each lamp and go through the same process the cost of maintenance would become $219,386.48. If we go still further and take the basis of 3.77 cubic feet per hour for a mantle and 4½ feet for open-flame lamps, the total cost of gas would be $230,059.98. Subtracting that from bills rendered would give a supposed cost of maintenance of $201,564.97. Now in the other line is the Borough of The Bronx. The total here checks out with the total amount of the bills as rendered.

Q. What total do you refer to?

A. The total of the first column which is a total of the bills rendered, $575,383.85.

Q. As a matter of fact can you check the account as it appears in Exhibit 94 with your analysis?

A. No.

Q. Why not?

A. Well, I have just shown you. I have taken all the consumption of gas I could take without doing a lot of unnecessary work, and it does not check out particularly near that amount.

Q. Does the city own the lanterns?

A. No, sir, except in the case of the open-flame lanterns.

3443 Q. How many are there of these?

A. 746 at the beginning of the year.

By the MASTER:

Q. What is that figure for maintenance, $289,000?

Mr. MATHEWSON: Two hundred and eighty-nine thousand and some odd dollars.

By Mr. BURR:

Q. Are the mantle lamps owned by the company and leased to the City or supplied under contract?

A. Yes.

Q. And of course the city is obliged to pay the price agreed on in the contract for the service rendered?

A. Yes.

Q. What are the items of service as to street lamps agreed to be performed by the Consolidated Gas Company besides supplying the

lamps, does it not embrace lighting, cleaning, extinguishing, maintaining, repairing, painting, replacing when broken, replacing mantles, and furnishing gas of 20 candle-power at one inch pressure?

A. Yes, it covers every service necessary to operate the lamps. The city did absolutely nothing.

Q. Are there any other items to be supplied or work to be done by the Consolidated Gas Company outside of the lanterns under these contracts?

A. Yes, they repair the lamp posts, take down old ones and put up new ones at a regular price.

Q. As itemized in the contract?

A. Yes, and also furnished light to public buildings.

Q. Including services and meters?

A. Yes.

Q. And the setting of them?

A. And the setting of them.

Q. Does the city own the lamp posts?

A. Yes.

Q. Are the repairs to lamp posts paid by the city?

A. Yes.

3444 Q. Under the agreement?

A. Under the schedule in the contract.

Q. Have you an account or bills for these repairs?

A. Yes, the repairs are all given in these bills, as well as the lamp lighters. You will find the repairs at the end of each bill. For instance, the bill of February first, we start in with removals and resets.

By Mr. MATHEWSON:

Q. Are those repairs the one which appears in the second column of Schedule I?

A. Yes, and they continue on through the rest of the bill. Repairs are always going on, and there are repairs practically in all these bills.

By Mr. BURR:

Q. Have you analyzed all these bills for repairs?

A. Yes. That is submitted in Schedule I-*a*.

Q. Is that analysis correct?

A. Yes.

Q. And is the city obligated to pay for these repairs?

A. Yes.

Q. Are these contracts and analyses based upon bids publicly advertised and opened and contracts awarded?

A. Yes.

Q. Were these prices and bids the lowest bids received?

A. Well, there was a question about that.

Q. What do you mean by that?

A. Well, at the time this contract was let, or rather the portion of the contract in 1905, at the time that contract was let, which was March 15, 1904, and extended down to March 15, 1904, there were

two other bids for the supplying and maintenance of lanterns only; one in our opinion was not a responsible bid, and the other one was, but it was restricted to a very small area in the city. The doubt we had was this: If you took the irresponsible bid, we will say,
3445 to identify it, which was $13.35 per year, for supply and maintenance of same outside of gas, and added to that the cost of the gas for 3,925 hours at three cubic feet, the amount became lower than $24.75 which the Consolidated bid. It was incomplete, however, but at the same time it left a doubt and it was deemed best to go to the Board of Estimate and Apportionment and ask them if they would recommend the acceptance of the bid and ask them if we could accept the bid of the Consolidated Gas Company. It was submitted to the Corporation Counsel and finally on the certificate of that office that it was all right the Board of Estimate and Apportionment awarded the contract to the Consolidated Gas Company at their bid figure.

Q. The Consolidated Gas Company as a matter of fact made the only bid on the complete requirements as called for by the contract and specifications as advertised?

A. Yes.

Q. Outside of the partial bid you mentioned was there any other competition?

A. Yes, relating to a small area of the city, but if you added the cost of gas to that bid it became higher than the Consolidated, consequently it was not considered.

By Mr. MATHEWSON:

Q. That was from a responsible bidder, wasn't it?

A. Yes.

By Mr. BURR:

Q. That is on the theoretical consumption of gas?

A. Yes.

Mr. MATHEWSON: Of three feet?

The WITNESS: Yes.

Q. Outside of these two items there was no competition?

A. No.

3446 Q. Did the city accept these bids?

A. Yes.

Q. As you have stated they were——

A. That is they accepted the bid of the Consolidated Gas Company.

Q. They were referred to the Board of Estimate and Apportionment?

A. Yes, and the department made a contract with the company.

Q. In other words, the Consolidated Gas Company got the contract at their own price although there was a question as to their being the lowest bidder?

A. Yes.

Q. And they will then in time be paid their bid for services rendered under the contract?

A. Yes.

Q. When did this contract expire?
A. March 15th, 1905.
Q. And the bids for the balance of the year were rejected, were they not?
A. Yes.
Q. What were the bids for the balance of 1905 on a yearly basis?
A. The same as the year before, $24.75.
Q. What bids were received for 1906 on this work?
A. In that year the bids were split, there was no bid received for the supply of gas, but there was a bid received for the supply and maintenance and operation and the repairing of mantle lamps at $12.00 a year.
Q. As a matter of fact the price was regulated by the Legislature for the gas, was it not?
A. Yes.
Q. What do you figure the cost of a mantle gas lamp in 1906, basing the cost of supply and maintenance of lantern on the bid, and supply of gas on the legal price for gas, that is, the legislative rate?

Mr. MATHEWSON: You mean the seventy-five cents after July 1st.
Mr. BURR: Yes.

A. $22.37 per annum.
3447 Q. Or to be accurate, how much?
A. $22.3675.
Q. What was the previous price?
A. $24.75.

By Mr. MATHEWSON:

Q. That was all gas at the rate of ninety cents?
A. Yes, included by us at ninety cents.

By Mr. BURR:

Q. Were there any bids received for the year 1906, received from any company?
A. None.
Q. The Consolidated Gas Company having received contracts and to be paid for same at their bid price, including separate payments for repairs to posts and supply of gas to public buildings, should this or any portion of it be charged to the cost of manufacture of gas, as shown in Exhibit 94?

Mr. MATHEWSON: If the Master please, that is purely a conclusion, as to whether any portion of the item of maintenance of lamps should be charged to the operating cost of gas, which it seems to me the Master is to draw. We can argue it, but I don't think the witness can testify to that.
Mr. BURR: He has given you the facts and the analysis of the bills.
The MASTER: I think that is so, Mr. Burr. You brought this witness here to testify to these matters of fact and to the correctness of computation. I do not understand you have qualified him, nor

did you undertake to qualify him like Professor Bemis, as a professional gas statistician and then ask what his theories about these figures were. That is the only theory upon which his opinion on a matter of this kind is admissible, is it not?

Mr. BURR: Isn't it obvious if his statement is correct from
3448 this analysis that the Consolidated has been paid by the City what they charge as against the cost of gas in Exhibit 94.

Mr. MATHEWSON: It is not claimed we have not been paid. The expenditure we have had to make in producing and delivering gas to the private consumers and to the city, preliminary to our collecting anything from our consumers, either private or the City, is an expenditure, as Professor Bemis conceded, which we had to make in advance.

Mr. BURR: No, Professor Bemis did not concede that nor has anybody conceded it. On the contrary it is a matter that is very much disputed by the City. You have here as a part of your operating expenses now $289,000 for street lamps. We showed you here, if we showed anything, that you are fully paid for everything you do in the matter of public lighting of street lamps in the City of New York, and that charge should not be made against the cost of gas and is an inappropriate charge on Exhibit 94.

Mr. MATHEWSON: When are we paid? When we get our money from consumers for all the coal we purchase, for all the oil we purchase and for all the repairs we make on private apparatus, but that does not make it improper to charge those items in the operating cost of gas, which means what we have got to pay out for making and distributing our gas before we can collect bills from consumers. That, however, is a conclusion which the Master should draw and not the witness.

Mr. BURR: I think he is entitled to answer the question.

The MASTER: Objection sustained; and the witness may answer.

3449 Mr. BURR: Exception.

A. I think not.

Q. And if not you may state your reasons?

Same objection; same ruling; exception.

A. Because it is a sale of gas, for rentals of lanterns, it is payment for services in connection with some building, it is a contract for repairs to lamp posts and a sale of gas to public buildings.

Q. Do the companies bid prices for each separate item?

A. Yes, sir.

Q. And the City was to pay the amount agreed upon for each item?

A. Yes, sir.

Q. The receipts from the City should be balanced against the expense of the execution of the contract by the company, the balance between the two sides of the account being the profit or loss on this contract only, and not chargeable to the cost of the manufacture of gas to the private consumer.

Objected to as leading, as a conclusion, and as calling for a conclusion upon a conclusion already stated.
Same ruling; exception.

A. In my opinion, yes.

Mr. BURR: I offer these schedules in evidence.
Received in evidence and marked City's Exhibit 60.

Q. I omitted to ask you as to the bills, are these similar bills rendered monthly for the year 1905?
A. Yes, sir.
Q. I mean they contain similar items all through the year?
A. Yes, sir.

3450 Mr. BURR: I offer one of the bills in evidence, the January bill, dated February 1st.

Received in evidence and marked City's Exhibit 61.

Cross-examination by Mr. MATHEWSON:

Q. The last written contract of the Consolidated Gas Company for supplying public lamps and public buildings was that terminating with March 15, 1905, you said?
A. Yes.
Q. But for the balance of the year 1905 bills were rendered to the city on the same basis as though the contract had been continued?
A. Yes. These are the bills here.
Q. Now, the rates of the bid for the year beginning March 16, 1905, or for the balance of that year, were the same by this company, were they, as the rates fixed by the contract expiring March 15, 1905?
A. Yes.
Q. Did you, on your estimate and those bids, call for a minimum of three feet per hour at the burner?
A. Yes, sir.
Q. And you were aware, of course, if that was observed, that that would mean the burning of something more than three feet on the average at the burner?
A. Yes, sir.
Q. And you called for estimates for the year 1906?
A. Yes.
Q. And that call for estimates prescribed a minimum of three and one-half feet at the burner?
A. Yes.
Q. The Department recognizing that more than three feet would be supplied?
A. Well, it was mainly on account of mantle lamps.
Q. And substantially all of the lamps, as you have shown, were mantle lamps?
A. Yes, sir.

Q. And of course, as the last contract called for three feet
3451 per lamp per hour you understood that the Consolidated Company could during that period, that is, the year 1905,

bill the City only for three feet per lamp per hour, no matter how much more they actually supplied?

A. Yes.

Q. As a matter of fact the rate of $24.75 for mantle burners which was that fixed in the contract terminating March 15th, 1905, you considered under the conditions existing in New York as reasonable and recommended its acceptance, didn't you?

A. I did, very strongly.

Q. That was at a substantially lower price than the City had been receiving before?

A. Yes.

Q. Now, when you say that all bids for the year beginning March 16, 1905, or rather for the balance of the calendar year, because bids were only called for for the balance of that calendar year, were they, at that time?

A. Yes, sir.

Q. (Continuing:) Were rejected, isn't it true that all bids of all companies were rejected except some bids of the New Amsterdam or Standard Company?

A. Yes.

Q. And those bids of the New Amsterdam or Standard Company were made at a low rate in accordance with that condition which was made, you say, the consideration for their charters or franchises when granted?

A. Yes, sir.

Q. So that in the Borough of Manhattan, as a matter of fact, there were other companies which bid in competition with the Consolidated?

A. Not for mantle lamps.

Q. But they did for open flame lamps?

A. No company bid in the other fellow's area.

Q. However that may be, there were certain companies bid in certain areas in the Island of Manhattan where their areas were located?

A. Yes, sir.

3452 Q. Now, in reference to checking this $289,000 which the company states under the item of street lamps in Exhibit 94, I understand that the Schedule I in City's Exhibit 60 which you present shows in the first column "Lighting," plus the care of the lamps, &c., various items which might be called maintenance, making that first column read "Lighting and Maintenance?"

A. Yes.

Q. And after that the company presented a single bid covering the gas to be furnished and also its maintenance?

A. Yes, sir.

Q. That was not separated in the bid, nor was it separated in the bills of the company, nor is it separated in the payment by the City to the company?

A. No, sir.

Q. The second column on this Exhibit No. 60, Schedule I, refers to certain items of "Repairs," does it not, which were separately

provided for in the contract, the company to receive a certain amount for each repair of that character?

A. Yes, sir.

Q. So that the contract with the City and the bids to the City, to sum up, provided first, that the company should furnish certain mantle or open flame burners, should maintain those lamps, including lighting and certain repairs, all for a lump sum, which in this case was $24.75 for the mantle lamps?

A. Yes.

Q. And some other sum for the open flame?

A. Yes.

Q. And in addition to that the contract provided that repairs of certain characters, such as you have defined, should be made at a certain rate for each repair?

A. Yes.

Q. And if the company making these repairs to which I last referred, expended in making them more than the contract provided that they might charge the City, that would mean an ex-
3453 penditure for that repair beyond what would be received from the City?

A. Yes.

Q. Now, you understand from the testimony, do you not, that the sum of $289,000 specified in Exhibit 94, was reached as follows: The company took its expenditures for maintenance, which would come under the first column of Schedule I of City's Exhibit 60, and also take its expenditures for repairs which repairs would be charged off as individual items in the contract, and added the two together and deducted from that the amount which it might charge the City for those repairs; you understood that to be the case?

A. Yes.

Q. So that if the company expended more in making the repairs specified in the second column of Schedule I of City's Exhibit 60 than it received from the City for those repairs, the difference between what the City paid to the company or is to pay to the company altogether, and the amount of gas delivered at the rate specified in the contract, would not give the amount which the Consolidated Company covers by the $289,000?

A. That question is really in two parts, Mr. Mathewson.

Q. Well, I will put it this way——

A. If the company expended for repairs and the City paid for repairs, and the company expended more than the City paid there is a balance to charge off to profit and loss account, of course.

Q. In other words, you made this computation and endeavored to check the $289,000 item of Exhibit 94 upon the theory that the making of the repairs by the company or the cost to the company for making the repairs exactly equalled the amount which the City paid them for those specific repairs?

A. No, I didn't take that theory. The only information I had on the account at all was what I could derive from these bills.

3454 Q. But you know the company——

A. And what I had from Exhibit 94.

Q. But you know the company charged the City in the bills of course only the amount that the contract provided that the company might charge for specific repairs?

A. Oh, that might be.

Q. Don't you understand that to be so? In other words, if the company charged more for making any particular repair——

A. It would not be paid.

Q. So that you understand that the company in these bills charged to the City only the amount which it was entitled under the contract to charge to the City for that particular kind of a repair?

A. Yes, sir; sure.

Q. And if the company actually expended more in making the repairs than it was able to charge the city, then there would be an additional expenditure by the company for repairs which would not be accounted for by this analysis that you have made, would there not?

A. There would be a loss.

Q. In other words, it would be an expenditure by the company which they would not get back from the city?

A. Yes.

Q. Except as they got a lump sum for furnishing the gas and maintaining lamps and that reduced the amount per cubic foot which they really received for the gas furnished?

A. Precisely. If any of us made a contract, stuck to it and lost money on it we would have to charge to profit and loss a loss.

Q. So that until you knew the separate items and the amount of the separate items which the company really had to expend for repairs and maintenance as distinguished from the amount which they were entitled to charge to the City under the contract you would not be able to check definitely the $289,000, would you?

A. No. If you were losing money badly or making very much money.

3455 Q. Yes, exactly. In other words until you have those items showing what the company actually expended and what was included in the $289,000, you would not be able to make a check as to how the company came out in connection with these repairs and maintenance?

A. Not altogether; and yet if you assumed, for instance, that Mr. Addicks' statement is correct as to the cost of gas, the amount of gas that was sent out, and you assumed for instanec that it was seventy-five cents, and you take those figures on the last sheet and you subtract them from the total amount you received at the burner you would receive from maintenance $201,000. Now if you had paid out for maintenance $289,000 you would have a loss of $88,000.

Q. In other words, we would have an expenditure we should have to charge against something?

A. Yes, but not the entire $289,000.

By Mr. BURR:

Q. You mean to the extent of $88,000?

A. Assuming that were true. I am merely pointing it out for illustration.

By Mr. MATHEWSON:

Q. I am merely now checking another feature, which is this: If you take the entire amount which the Company is entitled to receive from the City for lighting and maintenance of lamps, plus the amount which the Company is entitled to receive from the City for repairs under the special terms of the contract, and deduct therefrom the amount of gas figured at three cubic feet per lamp per hour and the amount which it is entitled to charge the City for repairs, there would be a balance of expenditures which is represented by this $289,000, you understand that?

A. Yes.

3456 Q. Now, your analysis of these bills here which you have presented in these schedules does not at all contradict that result and it could not.

A. That is the way it is done.

Q. And you could not contradict it until you knew how much the Company expended in repairs and maintenance beyond the amount it received back from the City, could you?

A. No. But in a way we are not trying to contradict your amount.

Q. I know. Well, that is all right. I do not think we disagree at all. Now, let us take the question of the charge of operating cost of gas to these other expenditures in caring for the lamps. It is not the case that all of this $289,000, as I understood you to say to Mr. Burr, represents separate items which are charged by the Company to the City and for which the City must pay as separate items because certainly the greater part of that would simply represent a portion of the amount which the City is to pay the Company for its mantle and open flame burners, covering both gas supplied and maintenance in a lump sum, is not that correct?

A. Yes, that represents a portion of that amount.

Q. Now, so far as the items which are charged for individually by the Company are concerned, that is to say, these specific items of repairs that are covered as such in the contract separately, you understand that all of those items have been deducted in reaching this $289,000 already; do you so understand from the testimony?

A. Well, I had no information on the $289,000 at all.

Q. I didn't know but what you had Mr. Carter's testimony that those items had already been deducted in reaching this $289,000?

A. It does not matter whether they were or not so far as my analysis is concerned, but I didn't have all the evidence that has been introduced by Mr. Carter before me. I heard him the last time he was here.

3457 Q. I merely asked you the question because I think Mr. Burr's question and your answer were a little misleading, and I know they were not intended to be.

Mr. BURR: Let me call your attention to Mr. Carter's testimony upon the subject.

Mr. MATHEWSON: Well, call my attention to the portion to which I have referred, and not to something else.

Mr. BURR: Yes, page 661. I read it as follows:

"Q. You mean you spent $285,701.13 more than you received from the City? A. More than we received from the City for repairing lamp posts. The contract with the City for the maintenance of gas lamps and supplying gas is at so much per lamp per annum, and it does not include any repairs. There is a separate contract for the repairs, stipulating the amount to be charged the City for each class of repairs, and as that repairing is done the cost of work and labor and material is charged against this account, and this bill that is rendered the City for such repairs is a credit to this account.

"Q. And $285,701.13 is the amount you expended in the nominal year ending October 31st, 1905, more than you received from the City or charged to the City for that service, is that as I understand your statement? A. More then we charged to the City, for we received nothing."

Mr. MATHEWSON: That is quite right. In other words, the amount which the company actually expends in repairs is charged to this account. The amount which it charges the City and expects to receive on account of the repairs is credited, so that $289,000 is a balance; those items for which the company has specifically
3458 paid, such as repairs, &c., having been credited on that account and deducted in reaching the $289,000.

Mr. BURR: May I inquire whether you claim that this item on Exhibit 94 of $289,000 represents what you claim you spend more than you receive from the City for maintenance and repairs?

Mr. MATHEWSON: I could not state it any more clearly than Mr. Carter has already stated it.

The MASTER: Both of you say $289,000, and it is here in the record $285,000.

Mr. MATHEWSON: That is due to the difference between the nominal year and the calendar year.

The MASTER: He says very plainly here that it is a debit balance of the account.

Mr. BURR: It has been contended before the Gas Commission and, I think, stated here that this was merely a matter of bookkeeping.

Mr. MATHEWSON: No, no.

Mr. BURR: I shall have to call your attention to that testimony before the Gas Commission, Mr. Mathewson, and that it was, as I understand it, a charge for repairs for which they did not receive compensation from the City.

Mr. MATHEWSON: No.

(A colloquy now ensues between counsel which the stenographer is directed not to report.)

Q. Now, of course, Mr. Lacombe, this cost of maintenance, whatever it is, or this ex. diture, if taken out of the operating
3459 cost of gas would be ta..en out of receipts on the other side?

A. Yes.

Q. So that when you came to take the difference which would be the fund applicable to dividends, there would not be any difference which way you treated it, would there?

A. Why, yes in your account as to the manufacture of gas.

Q. Yes, exactly, but I mean in getting the net profits which we might employ to pay return on our capital it would not make any difference which course you pursued.

A. The profit and loss account is not necessarily the cost of the manufacture of gas.

Q. I think we do not disagree that which ever way you treat it, the balance applicable to the return on capital would be just the same, whether you include this in the cost of gas or whether you include the corresponding amount in receipts or whether you exclude this from the cost of gas and exclude a corresponding amount from the receipts, when you come to figure the result is just the same?

A. So far as profit and loss account is concerned.

Q. And it is simply a question of what the operating cost of gas is and what should be charged in the operating cost of gas?

A. The question is the manufacturing cost of gas.

Q. Taking the irresponsible bidder to which you referred, and adding to his bid for maintenance only the amount of gas which would be required at three feet per lamp per hour at ninety cents or seventy-five cents as the rate provided by law, you would get a result of $23.95 per lamp per burner as against $24.75 by the Consolidated Gas Company?

A. Yes.

Q. But in case you made a separate contract for maintenance even with the irresponsible bidder, and the Company supplying only gas should insist on metering that gas at the lamp-post, it would
3460 be pretty sure, wouldn't it, that they would make the bill higher than $24.75 in vew of the fact that more than three feet per lamp per hour would be consumed?

A. I think it would unless it was governed by something like that.

Q. You took that into consideration among other things in accepting the Consolidated contract, did you not?

A. Yes.

Q. This year you say the Consolidated did not bid for the supplying of gas but only for maintenance?

A. That is all.

Q. Don't you remember there was some special provision in the Act or in the specifications which the Company considered made it impossible for it to bid? Was it not that the gas should be delivered within a certain pressure?

A. Above a certain pressure.

Q. Yes, above a certain pressure?

A. Yes, sir.

Q. And did not the Company say that in view of the pressure law they feared they would be unable to comply with that requirement and therefore they did not feel it safe to bid, in substance?

A. Yes, that is right.

Q. That was the position which a great many other companies took?

A. They all took the same position, and the reason it was asked

for is you cannot operate a mantle lamp at a lower pressure and get any kind of service out of it.

Q. One and one-half is the minimum?

A. Yes.

Re-direct examination by Mr. BURR:

Q. Do you know of any repairs made by the Consolidated Gas Company to the lamps in addition to those that are specified in detail in the contracts?

A. Well, of course, the contracts do not specify the repairs of little parts of the burner and that sort of thing. It only makes a
3461 sweeping clause of all repairs to the lantern. The City does absolutely nothing; the Company does everything necessary to keep it in operation, no matter what it is.

Q. The object of your contract is to embrace all the repairs necessary to the lamps?

A. Yes, the bid is asked for on that basis.

By Mr. MATHEWSON:

Q. But most of these repairs are included in the lump bid for supply of gas and maintenance?

A. Altogether as to lanterns.

Q. Yes, exactly.

A. Entirely.

Q. And it is only other items of repair which are included in that separate clause and paid for at so much per repair?

A. Lamp-posts, yes.

By Mr. BURR:

Q. What is your understanding of this item in Exhibit 94 of this item of $289,000? What does it represent?

Mr. MATHEWSON: I think I asked the witness that and he said he was not informed on that point. He said he had not read the testimony.

Q. Let me call your attention to the testimony of, I think, Mr. Carter, at page 707 of the present record. I read it as follows:

"Well, this item of $289,259.09 represents, then, the entire debit side of the account? A. The entire debit side, account for maintenance and repairs less the amount billed the City for repairs."

Mr. MATHEWSON: Less the amount billed the City for these separate items of repairs. The supplying of gas and main-
3462 tenance of lamps are separate because they are never included by the City or the company in its bill.

The WITNESS: Yes, as far as the City is concerned.

By Mr. BURR:

Q. What is your answer to your understanding as to what this $289,000 represents?

A. It appears that according to that testimony after they charge off the amount for repairs to lamp posts there exists something left

which included the cost of maintaining the lanterns and supplying them with gas and all that against which they would receive $24.75 per lantern.

By Mr. MATHEWSON:

Q. You don't understand that that $289,000 includes also an amount which the company will receive for the gas computed at three feet per hour per lamp at ninety cents per thousand?

A. No. I assumed it was a balance, I don't know just what balance it is. Of course I couldn't get that without seeing all your accounts. It was evidently a balance against which a further credit is to go, as I understood it.

By Mr. BURR:

Q. Your understanding of the matter is that the contract embraces all the repairs that were to be made and the maintenance of these lamps and everything was to be paid for in the price stated in that contract?

A. Yes, certainly.

By the MASTER:

Q. Assuming this $289,000 represents a balance of ac-
3463 count, an excess of the expenditure on repair account over what the company received from the City, would you modify in any way your answer to Mr. Burr's question as to whether you thought that was properly chargeable as an expense to gas making, to the cost of gas?

A. If I understand your question correctly, sir, if that was a balance to be charged off to profit and loss as a loss on a contract I should think it would probably go to the profit and loss account, but I do not think it should be charged to the cost of the manufacture of gas, which would be another account.

Q. Then I understand by that that you do not think anything that is in the profit and loss account should be charged as part of the cost of gas?

A. Oh, no. The profit and loss account would be made up by cost of the manufacture and distribution of gas and by other costs that they might be put to by losses in business.

Q. Bad debts, for instance?

A. Yes. Or if they had lost on a contract like this any such amount as that it would be almost worse than a bad debt. It would be foolish.

By Mr. MATHEWSON:

Q. But if you take bad debts, which may be incurred in a business reasonably well run, isn't that debt included in the operating expense of any industrial business and charged as a part of its operating expenditures before you reach the point where you deduct from total receipts in order to determine what is left for dividends?

A. That is true in certain ways, but it depends upon how the accounts are kept. The profit and loss account of a company, as I un-

derstand, must include every possible account of gain or loss. The manufacture of gas is part of the profit and loss account, but it is not all of it.

3464 By Mr. BURR:

Q. The repairs are a separate item altogether?
A. They might be part of it, but there are other items.
Q. In other words, a company that was not in the gas business, could enter into a contract with the City to keep the lamps in repair?
A. Yes. In other words, if you wanted to get at the cost of gas on this basis all you need do is to take the profit and loss account and divide it by the total production.

By the MASTER:

Q. Now, put the proposition in this way: Supposing that taking the dealings with the City as a whole the gas company made money on the transaction, they received from the City for their gas and repair more than it cost them for their gas and repairs and so forth, and yet at the same time in the single item of repairs to these lamp posts and so forth they actually paid out more than they received, would or wouldn't that repair item be in your opinion an expense of gas making or part of the cost of gas? There would be no loss on the contract as a whole, and yet in the single item of repairs, they would spend more than they got. Now, would that be part of the expense of gas making?
A. Not in my opinion, no. They make a contract for the sale of certain things and that would be a proper charge against the contract account. If they made a contract with me to sell me a whole lot of different things, they sell it to me at their price which I accept, and of course they have to look to themselves for protection on the price. If they do not make money on the contract that is bad business for them.

3465 & 3466 By Mr. BURR:

Q. There is nothing to compel them to make the contract, is there?
A. No, nothing.
Q. The City might make these repairs themselves?
A. There is nothing to compole them to make the contract at those prices unless they wanted to.

Mr. MATHEWSON: And nothing to compel us to go into the gas business at all.
Mr. BURR: This is an amazing thing that you are losing $289,000 on a contract with the City.
Mr. MATHEWSON: No, do not say that again, because afterwards you will apologize when you understand it.

Q. Would it not be possible by making an unwise contract to have the Company expend such an excessive amount on maintenance as to

make the apparent cost of making and distributing gas in amount double?

A. Reduced to an absurdity, yes.

At 3.45 p. m. adjourned to Monday, October 29, 1906, at 10.30 a. m.

Last Exhibits:

Complainant's, 256.
State's, W.
City's, 61.

3467 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, MONDAY, *October* 29, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Kirby.

3468 EDWARD W. BEMIS resumed.

Redirect examination by Mr. BURR:

Q. Professor, Mr. Mathewson alluded on page 3100 and asked you whether you had been advocating and were still an advocate of municipal ownership. Has the fact of your former advocacy af municipal ownership or your ideas upon that situation or proposal affected your judgment at all in this case?

A. It has not. In fact, I might add that while I have been employed in a good many gas cases, I have never been employed in a case, so far as I recall, in which the question of municipal ownership was up at all, except, I may say, that Montreal asked for what it would cost the city to put in and operate a plant; to that extent, that was an exception; but, barring Montreal, I would say that municipal ownership has not entered into it at all.

Q. Do you consider that municipal ownership is in any degree directly or indirectly an issue in this action?

A. No.

Q. You were retained by the city, were you not, months ago to support the claim of the city of this action, that the rate fixed to the

city and the rate fixed as to the general consumer are no- confiscatory, as would appear by the evidence in this case?

A. I was so retained by the city many months ago.

Q. Had Mr. Hearst or Mr. Shearn anything directly or indirectly to do with your testimony or your action or your activity in this case?

A. No.

Q. You were acting solely, were you not, in behalf of the corporation as represented by myself?

A. Certainly. I don't think they even knew of my being retained at the time I was retained.

Q. Now, before taking up in detail the points brought out
3469 on your cross-examination, do you desire to make any changes in the statement you gave on direct-examination, and if so, will you briefly state what such changes are?

A. I have discovered only two or three points bearing on the matter of cost of gas in which I see any occasion to modify what I gave on direct-examination. Those changes that I am now able to make are these:

First, an item of about $196,000——

Mr. MATHEWSON: Can you give us the page where this testimony occurs which you propose to correct?

The WITNESS: Well, it practically all relates to the table on capitalization.

Mr. MATHEWSON: You need not take time to look it up.

The WITNESS: Pages 3046 and 3052 practically summarize the points I wished to refer to. On page 3046 I omitted in the capitalization an item of $196,419.01, being the increase during certain months in the middle of 1884, between the time when Mr. Yalden made his report and the time of the final consolidation. Six per cent. on that, however, would only be $11,760, or less than one-tenth of one cent per thousand feet of annual sales.

The second change is that I included in miscellaneous income, which should properly be deducted from expense, $5,000 from dividends of the National Coal & Coke Company. That I now think should not have been included. That item of $5,000 a year plus the six per cent. on the $196,000 just referred to, makes about $16,-760, or about one-seventh of one cent per thousand feet of sales.

Finally, in bringing out the reasons for allowing an oper-
3470 ating cost of 48.63 cents, which I used on page 3052, I made a statement that I did not think more than one cent per thousand feet in the cost of the gas at the Consolidated Coal Gas plant as compared with the coal gas works of the Central Union was due to the difference in the price of coke. My later computations, which I will give more in detail a little later this morning, makes me belive that about four cents is the real difference as far as affected by the price of coke, or three cents more than I allowed. And I further think that there is a small point in the matter of somewhat larger repairs being necessary in a plant like the Central Union, requiring or using machinery. I think one-half cent to one cent

per thousand feet will cover that difference, while, as I have said, I will allow three cents more on account of difference in the price of coke, or a difference of four cents in all per thousand feet of coal gas sales. This four cents multiplied into the three billion feet, substantially, of coal gas made and divided by the thirteen billion feet of all gas made, only adds about one cent to the cost which I allowed per thousand feet so far as due to this larger allowance for coke and for repairs of the coal gas machinery, charging and drawing machinery, coal handling machinery generally, at the Central Union works. This added to my 48.63 cents would make 49.63 cents. I do not state that the cent ought to be added, because it may be that there should not be that difference in the price of coke with proper energy in the sale of it by the Consolidated, but the facts seem to indicate that there is that difference, and on that basis, then, I find, not that my former reckoning was wrong, for there is the difference of operating cost between the Central Union and the coal gas plants of the Consolidated Gas Company, which I stated, and which I used as one of the factors in reaching the 48.63 cents.

3471 I merely add now that perhaps one cent of the expense is inevitable on the part of the Consolidated, so that 49.63 or, roughly, about 50 cents may be the just operating cost that up-to-date plants on the island, doing as good work as the New Amsterdam, Central Union and Standard, and with such price for oil as is paid in eastern Massachusetts, and with the seven cents allowance for distribution expenses, other than taxes and repairs, instead of the 9.45 claimed by the company——

Mr. MATHEWSON: And without any allowance for reserve fund if one should be allowed?

The WITNESS: Yes.

Q. Is that as fully as you wish to state?

A. Other points may come up as you go on, but I think that is all for the present.

Q. On page 3098 of the testimony you were asked by Mr. Mathewson as to your connection with the Cleveland Water Works and the nature of your duties in connection with those works, having called attention to the fact that you never actually operated a gas plant. Will you tell us a little further than you did in reply to that question what your duties are there in that water works plant?

A. The management of the entire department. We have a very large pumping station, which consumes over 60,000 tons of coal a year. We have about the same mileage of mains and of larger average size than those of the Consolidated Gas Company. We have the same problems of repairs of mains, electrolysis, etc., and services which they have, only water mains are always attacked worse than gas mains if there be any electrolysis. We have the same problems of reading meters and making out bills, for Cleve-

3472 land during the last four years has attained the position of having the most water meters of any city in the world; I have set over fifty thousand; and the collection department and general office expenses are somewhat on the same basis as a gas works; so that the problems are not so very distinct and different.

To be sure, the City of Cleveland is not as large as the City of New York only half a million instead of over two million; but we have 70,000 services in use and we have to deal with every consumer in the city; they all use the city water.

Q. So, in your opinion, many of the questions which arise in a gas plant arise in this institution of which you are superintendent?

Mr. MATHEWSON: I object. I think that is a conclusion.

The MASTER: Oh, Well, that is a conclusion which I could draw, I should think. He has already said the questions are similar.

Q. Now, Professor, on page 3105 you were asked if you had not read the testimony that the Central Union Company was able to sell large quantities of its coke to the New York Central & Hudson River Railroad Company, which was delivered on the cars of the company, which were run into the station yards for that purpose, so that there was apparently no expense in storage or handling or breakage incident to the rehandling of coke, and you stated that you did not remember fully. Have you anything further to add to that suggestion of Mr. Mathewson's now?

A. I have not yet come across the reference to some of the coke of the Central Union being taken by the New York Central, but I have come across this important fact, which is given in Exhibit 22 of the Central Union Case, pages 210, 212 and 215 of the printed copy of the Central Union case on appeal: Out of 85,167,560
3473 pounds of coke produced for sale by the Central Union Company during this year we are talking about, ending October 31st, 1905, 23,155,050 pounds were used in the water gas department, and the rest, 60,012,510 pounds were sold for the gross price of $114,663.76, or nineteen cents per hundred pounds; while the expense for the cartage borne by the Central Union Company on that coke was $20,935.91, or three and a half cents per hundred pounds, leaving a net price of 15.5 per hundred pounds. This would indicate that the Central Union had to pay nearly twenty per cent. of its gross receipts for coke in order to cover cartage.

In a similar way I found in City's Exhibit 56, which was Exhibit 145 before the State Gas Commission, that the cartage and labor of handling the coke produced at the 14th Street station was 2.7 cents per hundred pounds of coke, or also about twenty per cent. of the gross price of said coke, which was 13.8 cents. And 42d Street, according to the same exhibit, the cost of cartage was only 1.1, or about nine per cent. of the 12.9 gross price of the coke produced at that station. On the whole, then, the cost of labor and cartage of coke to the 14th and 42d Street stations was less than to the Central Union. This is largely due, I believe, to the fact that much of the cost of coke delivered in the case of the Consolidated was borne by another company, known as the National Coke & Coal Company, but the facts just given show that the Central Union does have considerable expense in the cartage of coke.

Q. Now, on pages 3111 and 3113 you were asked how you got the figure of $3.23 a ton for coke made by the Central Union and what was the market price of the coke sold by the Central Union rather than the price at which they valued the coke transferred from the

coal gas to the water gas department of the plant. What have
3474 you to say about this?

A. As I stated in my testimony, I obtained the quotient of $3.23 a ton of coke at the Central Union by reducing the 23,155,050 pounds of coke to tons, transferred from the coal to the water gas department of the Central Union, and then divided the number of tons into the $37,381.56 given by the company as the value of said coke. In doing this I assumed 2,000 pounds of coke to the ton, as that is the number of pounds in the ton of coke that I was familiar with in Cleveland and the West generally, and which I supposed applied to New York City, although I knew that coal was bought by the long ton of 2240 pounds. Mr. Carter, however, I understood to say during my cross-examination, that he had used a ton, in the case of coke, to mean a long ton.

Mr. BURR: Is that a fact, Mr. Mathewson?
Mr. MATHEWSON: Yes.

The WITNESS (continuing): To mean a long ton, as Mr. Carter now states; the same as in the case of coal; consequently, in making any comparison between the price of coke per ton in the Central Union and the Consolidated Gas plants I should have used the long ton, which would, of course, have reduced my divisor about ten per cent, and increased the quotient or value of coke at the Central Union about ten per cent. The number of tons would have become 10,377 instead of 11,577½, and the average price would have become $3.62 instead of $3.23.

With regard to the other point, as to whether the Central Union valued the coke used in its water gas at the same price at which it sold its coke, I have discovered, as already stated, that the 60,012,510 pounds of coke sold yielded nineteen cents per hundred
3475 pounds before deducting cartage, and 15.5 cents after deducting cartage.

Now, I found that the 23,155,050 pounds of coke used in the water gas plant, which was valued, as I have stated, at $37,381.56, or 16.1 cents per hundred pounds, is in reality .6 of a cent higher per hundred pounds than the net price received for coke sold in the open market. I do not, therefore, recognize any unfairness in the figure I took, but would have used, of course, the absolutely correct figures if I had been possessed of this later information, which I was not aware was in existence at the time of my testimony on direct examination.

Q. How was it you did not have those figures at the time of your direct testimony?

A. It was because the evidence from the Central Union on that point was not in the typewritten volumes of evidence bearing on the Central Union case that I had the privilege of examining.

Q. You mean the exhibit which Mr. Mathewson called your attention to in the printed copy of the testimony in that case was not part of the typewritten record which the City had in its possession?

A. Yes, sir, and I did not know that I could have consulted an original copy at the office of the Gas Commission. I was not familiar

with the fact that there had been such a statement presented to the State Gas Commission.

Q. So, after having an opportunity to consult those figures, you are glad of an opportunity to correct your testimony in that regard?

A. Yes. I may say I had prepared a form of question for Mr. De Ford to present to any gas companies outside of the Consolidated that he wished, but as I did not appear in those cases and they came later than the Consolidated, I was not aware to what extent he had obtained information along those lines.

3476 Q. And that refers to the Central Union?

A. Yes.

Q. You were asked on page 3116 whether the price which the Consolidated gave as the value of coke at its coal gas plants and the price which it charged itself for coke in its water gas plants corresponded to the price which it obtained for coke in the open market. What have you found as to that, Professor?

A. The coke produced for sale at the 14th Street station in the year under discussion, ending October 31st, 1905, was 57,844.06 tons, or 129,570,694 pounds. The gross value of this was given in City's Exhibit 56 as $178,527.11, or 13.8 cents per hundred pounds. The net value, after deducting cartage, was given at $143,706.08, or 11.1 cents per hundred pounds. Likewise, in the case of 42d Street, the 56,932.93 tons, which is equivalent to 127,529,763 pounds, produced for sale in the coal gas plant is given as worth $164,999.83, or 12.9 cents per hundred pounds, less cartage of $14,234.34, or 1.1 cents, leaving a net value of 11.8 cents on 33,955.43 loads. The 33,955.43 loads, or 50,933,145 pounds of coke, counting 1,500 pounds to the load, sold by the three water gas stations of the Consolidated, is given as worth, after adding cartage, $74,862.97, or 14.7 cents per hundred pounds. The difference between 14.7 cents at the water gas stations and 11.8 at the 42d Street coal gas plant, a difference of only about 3 cents per hundred pounds, does not appear to me unreasonable in view of the fact that the coal had to be carted from the coal gas to the water gas stations. With respect to the comparison between either price and the price at which the coke was sold in the open market, I have the following information:

In City's Exhibit 44, page 804, being a reprint of an exhibit before the State Gas Commission, prepared by the gas com-

3477 pany at my request, appears this question:

"Amount of coke and receipts therefor?"

In their answer the company gave the coke produced for sale at both the 14th and 42d Street stations and its value, and then deducted the labor and cartage, and that let the figures which I used. I don't see what better evidence I could have that the company professed to give the actual receipts for coke at the two coal gas stations.

I also find in State's Exhibit J (page 414-a) that the coke sold by the Consolidated during the calendar year ending 1905, to outside parties, was 117,940.7 loads, for which $260,118.34 was obtained or $2.205 per load was received. The coke used at the water gas stations (same exhibit) is charged at practically the same price, $2.25, taking

account of cartage, and the same represents the figure I last gave for water gas. That same value is placed on the coke used at the distributing stations and shops. I do not see, therefore, that I made any mistake in taking the receipts for the coke of two coal gas stations of the Consolidated as given by the company in City's Exhibit 56.

Q. I call your attention to the bottom of page 3117, where Mr. Mathewson states, so far as the cost of the Consolidated gas as a whole is concerned, it makes no difference; it credits its coal gas plants with coke transferred to the water gas plants and charges the water gas plants correspondingly, provided it used the same figures. Has the statement you have just made answered the objections made by Mr. Mathewson on pages 3116 and 3117, as stated by him?

A. I think they do. It seems to me, so far as I can learn, that the price to outside parties, taking account at least of cartage, is
3478 substantially the same as the price at which the coke was transferred between the coal and water gas stations of the Consolidated.

Q. On page 3119, your attention was called to the fact that the cost for labor at the Central Union was 5.89 cents per thousand feet in making coal gas, while at 14th Street 7.65, or about thirty per cent. higher, and at 42d Street 11.52, or about twice as high, and you were asked on page 3119 and 3120 whether this might not be explained by the fact that the coal and water gas were made under the same roof, and therefore economies might have occurred because of that fact. What have you to say as to that?

A. I don't see how the economies could have been any greater than the economies that might occur at the 14th or 42d Street stations, provided they were up to date, for at either one of the latter two stations the coal gas made is not greatly different from combined coal and water gas at the Central Union station.

Q. On page 3130 your attention was called to the fact that according to Exhibit 171 before the State Gas Commission, the reported price of the coal and water gas furnished by the Central Union to the Consolidated during the four months ending October 31st, 1905, under the new law as to candle-power was 34.45 cents, indicating operating costs of 31.33 cents. How much lower do you find that to be than the station cost of the gas made by the Consolidated as given in the same exhibit?

A. It is 34.35 cents. I have it here. The difference is 4.27 cents. Exhibit 171 reports the cost of the gas made by the Consolidated for those months as 35.6 cents. This exhibit was prepared by the company.

Q. On page 3130 you are quoted as stating that in Table 7 you had reported the station cost of the Standard Company on page 2078 as
20.23 cents for the year ending October 31, 1905. How should
3479 the answer have read?

A. It should have read page 2978 instead of 2078, and the cost should have been stated as 30.23 cents. It must have been a typographical error.

Q. On page 3132, you were asked by Mr. Mathewson if it was not to be expected that there would be a difference of one cent or

two cents in the cost of manufacture of gas between different companies in the city. Have you anything further to say on that point?

Mr. MATHEWSON: The answer was yes, wasn't it?

A. I would merely like to emphasize the fact that the difference in this company was more than was stated in the question. It was 2.77 cents, taking account of the difference in candle-power and meant a difference in the total production of water gas of the Consolidated as stated on page 2980 of $201,753.30. I am surprised to find that the largest company——

Mr. MATHEWSON: I move to strike out from "I am surprised to find——" If the Court pleases, the question was whether he would not expect a difference of a cent or two, and his answer was yes, and this examination so far as this point is concerned is not re-direct at all, it merely goes into a different subject.

Q. What do you find the fact to be?

A. I find the largest and the oldest company has the larger cost. If I had taken the New Amsterdam Company alone for comparison with the Consolidated I would have noted that it not only operated at a cost of 2.28 cents less but furnished an average candle-power of .88 of a candle more; worth, according to the claims of the
3480 Consolidated, over .72 of a cent on the basis of oil at 4.04 cents per gallon. This added to the 2.28 makes 3 cents of inferiority on the part of the Consolidated. This multiplied into 7,850,323,000 feet of coal gas made by the Consolidated means an excess cost of $235,510.00 or more than the figures which are used in Table 7 on the basis of comparing the Standard and New Amsterdam together with the Consolidated water gas stations.

Q. You were asked on page 3134 as to the candle-power maintained in Boston and whether they did not there maintain an average of 3 candle-power above the standard and you said they did. Have you any further information on that point?

Mr. MATHEWSON: Is it necessary? I thought he had finished his direct testimony.

Mr. BURR: Well, as to the reason for that.

Mr. MATHEWSON: I asked him whether the candle-power was greater and he said it was about 19. I cannot see any point in going into that further, I confess.

The MASTER: I do not see what the point of it is unless the question is made a little more specific, Mr. Burr.

Q. Have you any reason to qualify the answer given by you at that time?

A. I am rather strengthened in my position by observing that in London according to Field's Analysis——

Mr. MATHEWSON: I protest against this.

Q. In what respect?

A. Why there is only a difference of half a candle-power there between the legal requirement and what they maintained.

Mr. MATHEWSON: I move to strike out all this statement. The

simple question was whether in Boston the candle-power was
3481 19 and he said it was and showed by the report filed with the Commission exactly what it was. He apparently wants to proceed and put in additional arguments here in his re-direct which he should have presented in direct, if at all.

The MASTER: Strike it out.

Mr. BURR: Exception. You were making a point as to the fact that the candle-power in Boston was of a different kind from that in New York and you were drawing an inference which I wish to rebut, if I may, by his explanation.

Q. You were asked if they did that to obey the law. Now, I want to know whether you found that to be the fact or not. Did they?

The MASTER: He said they did not do it to obey the law and he was asked what he understood they did it for, and he said to compete with electricity, and because it was a good policy.

Mr. BURR: If he has upon investigation any reason to qualify his answer, I suppose he is entitled to qualify the answer in any respect. It is not a cast-iron rule that after giving an answer you must be bound by it, even on his re-direct.

Mr. MATHEWSON: If his answer is wrong, I have no objection.

Mr. BURR: Or if he wants to modify or give additional reasons for his answer he is entitled to do it. The Master has ruled it out. I take an exception, and you may answer.

A. The last issue of Field's Analysis of the principal British gas illuminating companies for the year 1905 shows that the dif-
3482 ference in London between the prescribed candle-power and that supplied was only .48 of a candle in the case of the London Gas Company and .6 of a candle-power in the case of the South Metropolitan Company, and did not exceed a candle in the case of eight out of twelve suburban London companies.

Q. And from knowledge of these facts would you conclude there is actually no necessity for the large difference which exists between the prescribed candle-power and the actual candle-power as found by the tests both in Boston and in the City of New York, as relates in the first instance to the Boston companies, and as relates in the City of New York to the Consolidated Gas Company?

Mr. MATHEWSON: Objected to as leading in the highest degree, and as a conclusion which the witness is not qualified to draw, as not being a gas expert; and if it depends upon figures that he presents the Master can draw it just as well as he can, if it is to be drawn.

The MASTER: I think the question is objectionable, Mr. Burr.

The WITNESS: Here is Field's Analysis. I can verify my figures if anybody doubts them.

Mr. MATHEWSON: It is not a question of doubt. It introduces another subject that we ought not to go into.

Q. Well, what do you conclude from these facts that you have stated?

Mr. MATHEWSON: Objected to on the grounds just stated to the last question.

Objection sustained.
Mr. BURR: Exception.

3483 A. I consider that it tends to show that it is not necessary to have any such large difference as exists in Boston or existed during several months of the last two years in New York City.

Q. You were asked at the bottom of page 3134 by Mr. Mathewson this question:

"In your examination of the tests of Professor Love subsequent to July 1st, 1905, did you find that in spite of the average that the Consolidated Gas Company maintained, yet, on various occasions, the candle-power has dropped to 22 or very close to it."

Have you investigated that matter further and do you wish as a result of such investigation to modify your answer in any respect?

A. Yes.

Q. Please do so.

A. I misunderstood the question. I thought it related to the whole year 1905 and not simply to the last six months. I did not grasp the word "subsequent," in other words, in the question. During the last six months of the year there were 151 days on which the gas in each of the five stations was tested by Dr. Love, making in all 755 tests. There were only five days in which the average of the tests of the five stations fell below 23 and only one day in which it fell below 22.6. Of the 755 tests at the individual stations only thirty fell below 22.5, while there were 175 tests or nearly one-quarter of the whole that were over 25, and more than six-eighths were above 23. The candle-powers fell below 23 chiefly in September and October, yet the average even for the lowest month, September, was 23.6[illegible]. The average candle-power for the six months were 24.18 while the law only required 22. The average candle-power during the last half of 1904 when the law required 20 was 21.08. In other words, during the last six months of 1904

3484 the company gave 1.08 candle-power on the average in excess of the legal requirement, but during the last half of 1905 it gave 2.18 candle-power in excess of the legal requirement.

Mr. MATHEWSON: Now, if the Master pleases we are met with this proposition: I asked the witness in order to test the care of his computation as to whether he had examined the individual or had made the individual examinations to see whether on various occasions they did not drop below 22 (page 2134). He said yes [illegible]ey did, he said in another place he had not the individual computations with him. Now the witness goes off between the cross and re-direct, makes an examination, brings in the year 1904 and makes another argument which was not called for by the questions at all, and it strikes me it is not proper or fair re-direct examination. If the examination had continued at that time it would have been ended and I do not think that the witness's subsequent investigations are matters of re-direct examination.

Mr. BURR: If a subsequent investigation requires any explanation or modification of his answer made during some question you put, he is certainly entitled to give it on re-direct examination when you have not called his attention to the situation by your cross.

Mr. MATHEWSON: He has now gone into a subject which requires a further examination and gives an answer that is simply poppy-cock when the facts are concerned.

Mr. BURR: I move to strike that out.

The MASTER: Gentlemen, I think we had better stop all the speeches. There is no motion before me. The question was
3485 proper if Mr. Mathewson did not object and has not moved to strike out the answer.

Mr. BURR: The table showing the variation between the prescribed illuminating power and that actually supplied by the London companies appears upon page 2 of Field's Analysis, and I think at this point I will read it into the record. I think this is recognized as the standard book upon the subject.

The MASTER: I understood I had already excluded this question of going into the London candle-power as not re-direct examination. I allowed this last question with regard to his examination of Professor Love's tests on a different theory altogether, but the London candle-power matter was excluded and I shall make the same ruling if Mr. Mathewson objects to it.

Mr. MATHEWSON: I object to it.

The MASTER: Objection sustained.

Mr. BURR: Exception. The point is, if it should be allowed, I want to have coupled with the answer the actual official proof contained in these two lines of the facts which I wish to have before the Court; that is, as to the amount of candle-power required, and the actual candle-power supplied.

The MASTER: I will exclude it, the reason being that when the witness was on the stand before the witness was asked some questions on the subject and stated he did not know the facts regarding the London candle-power, and I do not think it is proper re-direct examination for him to go off during the recess and come back with a new set of theories or tables on the subject, based on those statistics.

Mr. BURR: Not even if it tends to modify his former answer or explain his former answer.

3486 The MASTER: Well, I do not see that it does.

Mr. BURR: Well, I won't stop to read that into the record. Attention has been called to the place where the tables appear and he has already stated in his answer the exact figures with regard to the candle power actually required and that actually supplied.

Q. Much time was devoted to, and many questions were asked you regarding, the alleged conflict in your testimony with respect to the price of oil in Boston at the time of the hearings before the State Gas Commission on pages 3141, 3147, 3159 and 3166?

A. Yes.

Q. Is there any correction you desire to make in your testimony in that regard, or do you wish to amplify it in any way?

A. The only mistake I have discovered in my testimony at any time with regard to this matter was on page 3142 in reply to a question by Mr. Mathewson when I stated that the price of about 4½ cents per gallon in Boston was the average price for the year ending June 30th, 1904. In reality it was, so far as I have been able to

ascertain, the average for the following year, but I had not looked at my notes on that subject for a long time and got the date wrong. That contract in Boston, a copy of which has been produced by Mr. Mathewson on cross-examination, was dated May 9, 1904, and was for 7,500,000 gallons of oil. If it began to run immediately thereafter the oil would probably have been all used up under that contract by July 1st, 1905, for the Boston companies use 6,200,000 gallons of oil every twelve months, which I learned from their return to the Massachusetts Gas Commission. Therefore in the light of the fact that the oil used in Boston with the exception of one-half of one per cent. of naphtha during the year closing June 30,
3487 1906, averaged only 4.01 in price, although mostly only 34 degrees gravity, is an indication that a new contract has been made since the one I saw. When I was asked, January 9, 1906, in testimony before the State Gas Commission (pages 1303 and 1304), with respect to the price of oil in Boston, I was not asked, neither could I have told, what price was then being paid in Boston, but I was asked about the contract I had seen a year before and I didn't know in January, 1906, that the price had fallen in Boston six months before I testified here in New York.

Q. Referring to page 3157 and to the letter which was quoted on that page from President Richards of the Boston Company, and to your subsequent cross-examination upon that by Mr. Mathewson as to the situation in Boston, regarding the kind of oil and the price of oil, have you anything further to add?

Mr. MATHEWSON: Is this a correction?

Q. Or do you desire to modify your answers as given on your cross-examination, in any respect?

A. Yes.

Q. If so, please proceed.

A. In table 4 of my testimony (page 2972), I gave the gas oil used by the Standard Gaslight Company during the year ending October 31st, 1905, as 11,639,544 gallons, costing at 4.0903 cents $476,100.56. I also gave in table 5 the gas oil used by the New Amsterdam Company as 23,175,882 gallons at 4.0023 cents or $927,-577.18. The total oil used——

The MASTER: How does this have any bearing on this testimony to which you have called attention at page 3158, that is, about the price of the Boston oil.

3488 Mr. BURR: In instituting a comparison with the situation in Boston, he relied upon information which was contained in that letter. That information was subsequently modified by an additional letter from President Richards, which was sent to him evidently as a result of having a communication from the complainant company, and upon the new situation as he finds the facts to be from President Richards' second letter, he desires to make this explanation which may affect the tables he gave, Nos. 4 and 5.

The MASTER: What he is saying is to modify his table on page 2972 instead of modifying his testimony on page 3158.

Mr. BURR: But so far as that testimony given on the latter page affects those tables on the prior pages in the item of oil——

Mr. MATHEWSON: But this testimony on the prior page 2972, is taken bodily from the Exhibit in the case of the Standard Gaslight Company before the State Gas Commission, simply taking the items of manufacture, showing or purporting to show the station cost to the Standard Company as per the Standard Exhibits. This table 4 is simply part of the Standard Exhibit before the Gas Commission and has nothing to do with Boston, and none of the figures there are made up from the Boston prices or purport to be.

Mr. BURR: You have laid great stress upon his testimony as to the price of oil in Boston. Now——

Mr. MATHEWSON: What has that to do with this Standard Gaslight Company Exhibit?

Mr. BURR: He is now proceeding to call your attention to the facts as he has ascertained them positively to be in connection with
3489 the Boston oil situation and as the same can be applied to these exhibits that are now in evidence referred to.

Mr. MATHEWSON: Oh, that is a further argument, then. I object to this, Mr. Master, as not redirect-examination; and, furthermore, as being immaterial anyhow.

Mr. BURR: I think it is very material because he originally started out to institute a comparison between the situation, so far as oil is concerned, that exists in Boston and New England and the City of New York, and you by cross-examination showed that in certain respects he had possibly made a miscalculation. On his re-direct I asked him now to explain fully with regard to the particular matter of oil and its similarity or dissimilarity as the situation exists between New York and Boston.

The MASTER: I will overrule your objection, Mr. Mathewson.

Mr. MATHEWSON: Exception.

The WITNESS (continuing): The total oil used by the two companies was 34,815,426 gallons, costing $1,403,677.74 or 4.032 cents per gallon. This indicates that all the oil used by these two companies was 28 degrees gravity because the testimony is that they used the oil bought on the contracts of the Consolidated Company, which provided that the 28 degrees gravity during that period should cost only 4.04 cents. It is also to be noted that using that quality of oil, those two companies were able to maintain an average candle-power every month, with the exception of one month in the case of the New Amsterdam, sufficient to comply with the new law as to candle-power, as I showed on page 2995. Similarly, the
3490 Consolidated Gas Company, as shown in Exhibit 93, paid an average of 4.08 cents, which would indicate that 92.6 per cent. of the oil was of 28 degrees gravity Beaume test. Now, I have here the copies of the annual reports of several Massachusetts companies for the year ending June 30th, 1906, recently filed by these companies under oath with the Massachusetts State Gas Commission. From this it appears——

Mr. MATHEWSON: Now, just a moment. I again renew my objec-

tion, especially to this matter which the witness now proposes to go into. He has examined since the adjournment reports of other Massachusetts gas companies and proposes to deduce other arguments from those. Is that fair?

The WITNESS: It is practically the same companies.

Mr. MATHEWSON: Well, the same companies.

The MASTER: I will allow him to proceed.

Mr. MATHEWSON: Exception.

The WITNESS (continuing): From this it appears that the average price of oil at Springfield given on page 22 of the return was 3.6 cents, average price of oil in Fall River was 3.01 cents; in Lynn 3 cents; in Lowell 3.13 cents, save for a small amount of naphtha. I have no evidence as to the quality of oil used by Springfield or Fall River but Lynn used 28 degrees gravity and Lowell used 29 degrees gravity. I have here a letter from Mr. A. C. Pease, superintendent of the Lowell Gaslight Company, dated October 10th, in which he makes the statement that the oil used was about 29 degrees Beaume. An engineer and personal friend of mine has been informed——

3491 The MASTER: That is a little beyond anything that there is any justification for.

Mr. MATHEWSON: I move to strike it all out.

Q. What do you say as to Fall River?

The MASTER: This very table about which the witness says he is testifying now, I do not see that what he has thus far said has any relevancy to the table. This other table on page 2972 was put in evidence at the hearing of October 16, and he is now referring as part of his testimony to a letter from a man in Lowell on October 10th, if the letter from the man in Lowell on October 10th had any relevancy to the issues here it should have been produced on his direct-examination.

The WITNESS: I had it then in my hand right here.

Mr. BURR: Mr. Mathewson, as you remember, devoted a great deal of time to weakening the point he originally made in regard to the oil contract, and I want to give you all the information he has had. It is only a very short matter now.

The MASTER: You are quite right in that, Mr. Burr, but it seems to me only fair to Mr. Mathewson that if there is to be any correction or any change in the testimony brought out by him on cross-examination that it should be done by specific questions and manifestly not to open the door for a long disquisition or general statement by the witness on subjects which apparently ought to have been taken up on his direct-examination. It is unfair to opposite counsel. It imposes too much of a burden on him. You will have to take the witness in hand and question him as to the specific matters
3492 you want to bring out. There is evidently a long discourse here, the relevancy of which is not apparent to me.

Mr. MATHEWSON: I might add to that that it compels me to waste the time of this tribunal either in cross-examination to bring

out the facts and distinctions, or else on my own case to take the time to do it then. It is easily answered, but it takes time.

Q. What do you find the oil used at Fall River to be, so far as the gravity is concerned?

Mr. MATHEWSON: The witness has already stated his information on that subject and the sources of it, which is not very conclusive.

Q. Will you be a little explicit so that we can have this matter cleared up? What is it you desire to show by these figures you are now ready to produce before the Master?

A. I desire to say this. On my direct-examination I gave the fact about the price of 28 degree gravity and of 34 degree gravity oil in two or three places in Massachusetts. A great deal was made of the modification as to the 34 degree gravity by President Richards, and some aspersions were cast upon the accuracy of the 28 degree test, of the price of that. I wanted to back up my statement as to the 28 degree test and show by last year that was practically the only oil used in New York anyway and that the Standard and New Amsterdam maintained the full candle-power on that. Also that whatever becomes of the price in Boston it does not account for 5 per cent. of the whole business. Practically the whole thing is a 28 degree gravity oil, and that remains unassailed except some suspicions were thrown out that it could not be correct and I am very sorry
3493 that I left at the office the letter—I will bring it this afternoon, from Superintendent Pease of Lowell regarding oil being 29 degrees Beaume test and also bring down the Massachusetts Gas Commission report from Lowell which is handed in under oath by Lowell, showing it was 3.13 cents, Lynn 3 cents, and Fall River 3 cents.

Q. In other words you wish to call attention to the fact in connection with your prior testimony that ending October, 1905, the Consolidated began to pay 4.29 cents for the same quality of oil, or more than 1¼ cents in excess of the price in Eastern Massachusetts?

A. Yes.

Q. Which locations are further from the oil fields, I believe you testified on your direct-examination?

A. Yes, exactly.

Q. And it appears further that they began mixing with this oil an oil costing them 4.875 cents per gallon, making an average cost, if they mixed it equally, as they did during the last six months of the year 1905, of 4.58 cents?

A. Yes.

Q. And you wish to draw the comparison which that statement——

Mr. MATHEWSON: Hasn't he drawn the comparsion in his direct-examination? Every particle of that he has gone over, drawn his comparisons between the cost of oil here and the cost he said it was in Massachusetts, and figured out the difference and said it would make, taking this and other things into consideration, something like six cents difference, that he thought we should take advantage of in New York if conditions were as he assumed them to be.

The WITNESS: The only point I chiefly had in mind was
3494 that the modification in Boston scarcely affected the situation five per cent., because the oil used here was mostly up to within a few months——

The MASTER: So far as I can see, this is all a matter of argument from the facts you have testified about on direct-examination.

The WITNESS: Well, I will put in the letter this afternoon, if I may, from the superintendent at Lowell.

Mr. MATHEWSON: I shall object to the letter.

Q. And from these figures that you have given here and your previous testimony given here, what would you say as to the price for oil as given in Exhibit 93, to what extent that is reasonable or exorbitant in your opinion, over and above the price to which you have referred, that applying also to the price of oil as given in Exhibit 94?

Mr. MATHEWSON: Exhibits 93 and 94 show the costs for the nominal and calendar year 1905. The witness is asked what his opinion is, whether it is exorbitant what we pay. He has shown what we pay and purports to give from one source or another what other companies have paid. There is no comparison of conditions, and the witness never bought any oil, yet he is asked to state whether the price we pay is exorbitant. It is utterly incompetent.

The MASTER: There is a lot of evidence in here as to the price of oil everywhere, from which they seek to argue that the company pays more than other companies do. There is the fact. Now, how it adds to the witness's testimony to say that that is exorbitant when he is not a dealer in oil, I do not know. It does not hurt
3495 Mr. Mathewson any if that is all there is of it, but I do not want to have a long disquisition go on the record.

Q. Is it not a fact that the price of oil as given in Exhibit 93 is in excess to the extent of over 1 cent a gallon, and the price in Exhibit 94 is in excess by over 1¼ cents per gallon as compared with these prices you have spoken of in Boston, Mass.?

A. I will throw out Boston for the time being as somewhat uncertain, as to just what proportion of each grade of oil they use, and take the absolutely unassailed testimony regarding Lowell and Lynn on the 28-degree gravity oil and the 29-degree gravity oil, and I can say on that basis alone, and the price also at Fall River, that the excess in New York was over a cent a gallon in the period covered by Exhibit 93 and over 1½ cents in the period covered by Exhibit 94, or by the new contracts above what it should be——

Mr. MATHEWSON: Well——

The WITNESS: Above what it is in eastern Massachusetts, I will not say what it should be.

Q. That, in other words, would be a reduction of 1 cent a gallon down to 3.08 cents?

A. Yes, that is a conservative statement, that with the prices prevailing in eastern Massachusetts there would be a reduction of 1 cent a gallon or nearly 4 cents per thousand feet of gas made.

Q. That would reduce the cost from 15.89 to 12 cents per thousand feet of gas made?

A. Yes.

Q. Should that be any higher in Exhibit 94 when distributed over all the gas made by the company?

Mr. MATHEWSON: Objected to as calling for a conclusion, and a non-expert opinion on that exhibit.

3496 The MASTER: I will let him answer it.

Mr. MATHEWSON: Exception.

A. No, because there was no need of changing the contract, as judged by the experience of the Standard and New Amsterdam.

Mr. MATHEWSON: I move to strike that out, that there was no need to change the contract.

The MASTER: Strike it out.

Mr. BURR: Exception.

Q. This reduction which you claim should be made of 1 cent per gallon in the way you have spoken of would mean a reduction in the gas made by the company of how much?

A. $415,049.07 and on the gas bought from the companies with which the Consolidated Gas Company has agency agreement, $135,000, a total of about $550,000.

Q. For the 12 months ending October 31st, 1905?

A. Yes.

Q. Now, on pages 3167 and 3168 it appears that the allowance you made for differences in the price of coke at the Central Union as compared with the Consolidated amounted to $27,464.48, and that this, divided by the total coal gas made at 14th and 42d Street stations, 2,809,586,000 feet, would yield .98 cents per thousand feet instead of 1.01 cents, and it was suggested by Mr. Mathewson that the error of .03 cents was made by the blunder of dividing the number of dollars into the number of feet, and then making a mistake in pointing off the decimals. Although the error is so insignificant, yet so much was made of it that I would like to ask if you have discovered how the mistake was originally made?

A. I have. I have discovered my original computation, and find that I used for my divisor not the number of feet of gas

3497 made at the two stations, but the number of feet of gas sold, to wit: 2,724,736,502 feet—the figures for gas sold appear in the parallel column to that containing the number of feet of gas made, and by an oversight was taken.

Q. On page 3169 your attention was called to the fact that in your table 8, page 2984, you compared the operating cost of the Central Union with the 14th Street station, after deducting in both cases not only oil but repairs, under the theory that you desired to compare on the same basis with the same degree of illumination and with the same expenditure for repairs. Your attention was called by Mr. Mathewson to the fact that the Central Union coal gas, by reason of its better machinery, might require more repairs than the 14th Street station—by reason of its add-tional machinery might

require more repairs than the 14th Street station. What have you to say as to that?

A. I would say that, other things being equal, there might be required one-half cent per thousand feet more repairs in the Central Union than at the 14th and 42d Street stations on account of its additional machinery. As I would rather err, if at all, on the conservative side, I will concede the difference of a cent on this account, as contrasted with the average of the other two stations. But I could not concede that the Central Union in the long run would require 2.24 cents more repairs than the 42d Street, and 1.09 cents more repairs than the 14th Street, on account of any improved or labor-saving machinery at the Central Union plant. In fact, the difference between the 1 cent and the 1.09 at 14th Street is very slight, anyway. It was only in the case of the 42d Street that there was any great difference.

It is impossible to determine the question of repairs of any coal gas plant on the basis of a fiscal year.

3498 Mr. MATHEWSON: Well, that is what you argue, but on your direct testimony and on your cross-examination you give that. I do not think there is anything in addition here.

The WITNESS: I am through. I practically concede the repairs of 14th Street as proper for the Central Union.

Q. In view of this situation, you think it is only fair to add the one cent you have spoken of?

A. Yes.

Q. That would be to cover the possibility that in the long run the operating expenses would be that much higher on account of improved machinery at the Central Union?

A. Yes.

Q. I call your attention to pages 3170 and 3171, where, at Mr. Mathewson's request, you there made certain computations of the value of coke used by the Central Union Company. Do you desire to modify or change in any way the answers you gave as they there appear?

A. Yes.

Q. Please do so.

A. First, it was not proper, it seems to me, to include the coke used in making coal gas and amounting to $2,226.05, on the first line——

Q. That is the figure appearing on the top line of page 3171?

A. Yes, I think so. It should not be done either in the case of the Central Union or the Consolidated.

Mr. MATHEWSON: You understand that that is an item used for distributing holders, not for making gas?

The WITNESS: I don't know what it is used for.

Q. Well, it is for distributing holders, if that makes any difference in your view.

The WITNESS: It is a very small matter, anyway, because
3499 the point at issue is the quantity of coke that can be sold or used in making water gas, and I thought this was used under the retorts, but, as I say, it is a small matter. Second, it clouds the

issue to attempt to find the value of even the coke produced for sale per thousand feet, for that mixes up two issues that must be kept entirely distinct. One is the price obtainable for the coke per unit of quantity and the other equally important point, the quantity of coke that can be and is produced for sale by the Central Union, as compared with the inferior plants producing less coke for sale at the 14th and 42d Street stations.

Q. For sale?

A. Yes, or for use in water gas, either.

Q. What is this difference in the coke produced for sale per ton of coal carbonized?

A. The Central Union plant, according to Exhibit 22 of the complaint on appeal in the Central Union, pages 210, 212 and 215, produced for sale or for use in the water gas plant 83,167,560 pounds of coke, to which I see should be added even more now on account of this used in the distributing stations—and used 63,599 tons of gas coal in the retorts. In other words, the coal gas plant of the Central Union produced for sale 1,308 pounds of coke per ton of coal carbonized; really, it is more I now find. On the other hand, the 14th and 42d Street plants, according to City Exhibit 56, if we reduce the tons to pounds by multiplying by 2,240, produced for sale only 257,100,457 pounds of coke as a result of carbonizing 234,586.73 tons of coal. Thus the Consolidated produced for sale only 1,091 pounds of coke per ton of gas coal carbonized, instead of over 1,308 in the case of the Central Union. Put in another form, the Central Union produced 124 pounds of coke or really more now, I find, for sale per thousand feet of gas made, while the 14th and 42d
3500 Street stations produced only 97.3 pounds of coke per thousand feet of gas made. The 97.3 is obtained by reckoning the coal gas made at 14th Street as 1,360,284 and at 42d Street, 1,280,813 feet. In other words, the water gas made at 21st Street and piped over to 14th Street, before mixture with the coal gas, is omitted with a view to making the comparison as fair as possible for the Consolidated. It thus appears that the yield of coke for sale per ton of coal was about 20 per cent. greater in the case of the Central Union than of the Consolidated and per thousand feet of gas made it was 27 per cent. greater. This strikingly confirms the testimony of Mr. George E. Wood, quoted in my testimony at pages 3002 and 3003 as to the greater yield of coke for sale in the Central Union plant.

Q. On page 3175, you made another computation on certain assumptions of Mr. Mathewson as to the price of coke of the Consolidated Gas Company compared with the Central Union, reaching the result, on his suppositions, of $4.29 per ton for the Central Union and $2.73 for the Consolidated.

The MASTER: $4.285.

Mr. BURR: Yes, $4.285.

Q. Now, what have you found further as to that computation?

A. I have found that the assumptions under which the computations were made were faulty in two respects. First, the period of comparison was not the same. The figures for the Central Union are for the twelve months ending October 31, 1905, and for the

Consolidated they are for the calendar year 1905. But I find a second and greater criticism in the fact that the figures given me for the computation were the net price of coke at the Consolidated Company's plant after deducting all expenses of cartage, while
3501 at the Central Union the figures were the gross valuation of the company before any deduction for cartage. I will make this clear.

Exhibit 94 and State Exhibit J, page 414-a, give the value of the total coke produced for sale as $388,300.91, and Exhibit 94 shows that after deducting the labor and handling, to wit: $35,678.39 and the cartage, $11,164.97, there was left as the net value or real return to the Consolidated Company $291,457.55. The figure given me for computation on page 3174 of $290,232.48 is shown in State Exhibit K, page 414-b, as the gross price of coal actually sold to consumers aside from the water gas plant and without any deduction for cartage. On the other hand, Exhibit 22 of Complainant's papers on appeal in the Central Union case shows that while 60,012,510 pounds of coke were sold for $114,663.76, as given in the computation on page 3175, there was also 23,155,050 pounds transferred to the water gas plant, and there was an expense of coke cartage, presumably borne in chief measure by the coke sold, of $20,935.91, and this, of course, should be taken from the gross price in the Central Union, if it is deducted in the case of the Consolidated, in any comparison between the two works. Therefore, all the conclusions based on the computation made by me for Mr. Mathewson on pages 3171-7 are based on false premises.

Q. In the light, however, of the additional information, which you state was given you by Exhibit 22 which you saw for the first time, as you have stated, on cross-examination by Mr. Mathewson, what do you believe would be a fair statement to make as to the difference in the price of coke as bearing on the cost in comparing the coal gas plant of the Central Union with the coal gas plant of the Consolidated?

A. The Central Union gas plant produced for sale 23,155,-
3502 050 pounds used in the water gas plant, and 60,012,510 pounds actually sold for $114,663.76, or 19 cents per 100 pounds, less cartage of $20,935.91, or 3.5 cents per 100 pounds, leaving a net price of 15.5 cents per 100 pounds. The coke transferred to the water gas was valued at $37,281.56, or 16.1 cents per 100 pounds. Since a little cost of cartage was doubtless connected with that transfer, the price that the Central Union netted for its coke actually sold was practically the same as the value that it credited itself with per 100 pounds for the coke transferred to the water gas plant. If, then, we combine the entire coke produced for sale by the coal gas plant, omitting the two or three thousand dollars' worth which my attention was just called to, which I did not understand, and which will not materially affect this, we find that it was 83,167,-650 pounds valued at $152,045.32 or 18.3 cents per 100 pounds. From this should be deducted the $20,935.91, the expense for cartage or 2.5 cents per 100 pounds, and this divided over the entire amount leaves a net return on coke to the coal gas plant of the Central Union of 15.8 cents. Turning now to the Consolidated Gas Company, City

Exhibit 56, pages 1231-9 and multiplying the number of tons of coke sold by 2,240 to reduce it to pounds, we find that the two stations produced for sale 257,100,457 pounds, and we find that, after deducting the labor of handling and cartage the coal gas plant was credited with $143,706.08 at 14th Street and $150,765.49 at 42d Street, or a total of 249,471.57. If, however, this coke had been sold at a net price of 15.8 cents per 100 pounds, as at the Central Union coal gas plant—really, I think it would have been a little less if I had known of this other point mentioned this morning—
3503 the return would have been $204,721.71 at 14th Street and $201,506.88 at 42d Street or a total of $460,228.58. This is $111,757.02 more than was actually received by the 14th Street and 42d Street coal gas plants or 3.98 cents per thousand feet of gas made. In other words, 3.98 cents of the 11.60 superiority of the Central Union over the 14th and 42d Street stations is accounted for by the difference in the price of coke, and possibly one cent could be deducted from the difference on account of the essential difference in the repairs or a total of about five cents. I am not sure, however, that with the proper energy in pushing the sale of coke, there would be the above difference, or that there is really in the long run such a difference, but that I leave for the time being for the purposes of computation. There was apparently such a difference in the year ending October 31st, 1905.

Q. I call attention to your testimony on page 3185 regarding the Astoria plant and the possible economies which might be realized at that plant sufficient to earn interest upon it, and your testimony in that regard as questioned by Mr. Mathewson. Do you wish to modify your testimony in that respect, and if so, please state?

A. I meant this, that if the Consolidated Gas Company did as well as the New Amsterdam, the Standard and the Central Union, and paid a fair price for oil, it would have profits enough to bring its plants entirely up to date, if they are not up to date now. I find that the Consolidated Gas Company on the basis of last year's and the present year's consumption of gas does not use the Astoria plant. Whether that plant is to justify its existence in the future, I do not attempt to say. The Consolidated Company ought to be producing gas at about fifty cents per thousand feet without any larger capital
3504 investment than is necessary to bring its existing plants up to date if they are not up to date now. I do not hold that it is necessary to go to Astoria in order to do as well as the New Amsterdam, Standard and Central Union are doing, barring perhaps the slight difference in coke, nor do I hold it is necessary to go to Astoria in order to get a reasonable price for oil. All I mean is that if the company contends that it cannot secure as good a plant and reasonable price for oil as it should while making its gas on the Island, it certainly should be able to do so after completing its first two units at Astoria. It could then run the Astoria plant at, say, 80 per cent. of its capacity or 32,000,000 feet per day, thus making over 11,500,000,000 for the year, and relying upon the best of its water gas stations to supplement the supply in the winter months as is done in Boston and more or less using oil to mix with coal gas throughout the year to bring up the candle power as at 14th Street and 42d Street now.

Astoria seems unnecessary to take care of the present output on an economical basis, although some improvements would doubtless be necessary at 14th and 42d Streets in order to reach the economies of the Central Union. Such an improvement should have been provided for in a depreciation fund, if it has not been in the years past. The burden should not be on the present users of gas.

Mr. MATHEWSON: Your addresses seem to be all written out there. It seems to me that if the questions could be put and you would answer them directly, we would get more point and less argument.

Q. I call your attention to the testimony on pages 3189-3190 where reference was made to the item of public lamps and
3505 you were asked, I think by Mr. Mathewson, whether the manner of placing these public lamps or the item for public lamps as appears in Exhibit 94, was not in accordance with the procedure as adopted in Massachusetts?

A. Both the Massachusetts Gas Commission and the New York Gas Commission in its schedule recently sent out to be filled out by the various gas companies of the State, called in one place for all the expenditures by items including street lamps and on another page called for all the gross earnings from operation, including the earnings from residuals and from street lamps, gas stoves, etc. This is similar to the returns made out by the Consolidated Gas Company and is a convenient bookkeeping account, but the important point is that when it comes to a question as to the cost of gas per thousand feet, the Massachusetts Gas Commission in its hearings, in several of which I have taken part, has acted as did the New York State Gas Commission in the New York case, and deducted the receipts from residuals, street lamps, rent of stoves and other sources in order to determine the net cost of gas. The only controversy in the present case on this issue seems to be in connection with street lamps, and I would state that the most famous compendium of gas statistics in the world, known as "Field's Analysis," in reaching the total income, deducts the public lamp charges, as will be noticed on page 3 in Field's Analysis for the year 1905.

Q. On page 3195 you and Mr. Mathewson had some amiable discussion as to the propriety of allowing interest upon taxes deferred. Have you anything further to say in modification or extension of your testimony as given there?

A. No. Further thought confirms the position I then took.

Q. Which was?

A. That in any quasi public corporation, any expenses in
3506 fighting taxes imposed by public authorities so far as the expense exceeds reasonable attorneys' fees, should not be paid by the consumer but by the stockholders, if it cares to assume that risk.

By Mr. MATHEWSON:

Q. And if any saving is made, of course, that should go into the pockets of stockholders, and not go to reduce the price of gas; is that right?

A. Possibly.

Q. Well, do you think that is right?
A. Well, I should say that in Massachusetts is six per cent.——
Q. Oh, well——

The MASTER: Your turn will come a little later on that, Mr. Mathewson.

By Mr. BURR:

Q. Your attention was called, Professor Bemis, and the claim was made, I think, that you were incorrect or wrong in your deductions by which you only allowed seven cents in New York for distribution expenses aside from taxes and repairs instead of 9.45 cents actually claimed by the company, and your attention was specifically drawn to the City of Chicago, where it was claimed the accountants found the expenses to be only 5.73 cents, and you were asked to give your information as to whether they included the full cost of collecting bills, or whether they were not paid at the offices of express companies.

Mr. MATHEWSON: I asked him whether he knew and he said he did not. That was the whole of that. It was a subject which he himself brought up.

3507 Q. What have you to say on that point?
A. I have been informed on what I think good authority that the bills are repaid at the various offices and shops of the company. A little more with regard to the 7 cents. The New York Consolidated Gas Company sells 2,000,000,000 more feet of gas than the People's Company of Chicago——

Mr. MATHEWSON: That is all in evidence. This matter was brought out and the comparison made by the witness and the 7 cents assigned to New York as against 9.45, and then I asked him at length what he knew of one thing and another, and whether he knew what the cost of this, that and the other was and he said he did not. I object to going into any further argument on the point. It already appears that the output of the People's Company is about 11,000,000,000 feet in Chicago, and the Consolidated Company here is about 13,000,000,000 and a little over. That is all testified to certainly once.

Q. Have you any further reasons to add to what you gave, Professor, in justification of your allowance of the 7 cents as against the claims of the company for the 9.45 cents?
A. Yes.
Q. If so, please state them.

Mr. MATHEWSON: I object to that as not proper redirect-examination.

The MASTER: I think that is so, Mr. Burr.

Mr. BURR: I think he is entitled to show all his reasons for that allowance and if there is any reason that he has heretofore given, or if all the reasons are heretofore given are questioned by very vigorous and rigid cross-examination, I think he is entitled
3508 to give all the reasons possible to justify such a claim as made by the Professor, for the information of the Court.

The MASTER: The only question, Mr. Burr, is whether it is evidence or not. What you say may be doubtless correct as a general proposition, that on a fair and liberal basis of redirect-examination he would be entitled to state additional reasons for matters as to which he has been cross-examined. But if it is that the witness is to be allowed to make a general statement into which he may interject hearsay and private letters and things of that character, counsel will no doubt object to it. If you can bring out by some specific question what you want to get at, let us hear it.

Q. In your direct-examination you gave only one reason for allowing 7 cents instead of 9.45 cents for distribution expenses in New York, and that was that the expense was still lower in Chicago, being only 5.73 cents.

The MASTER: At page 3200?

Mr. KIRBY: And 3201.

Mr. MATHEWSON: I asked him at that time what he had in mind which induced him to allow us only 7 cents. I asked him if there was anything further or something of that sort, and he said it was upon the rate in Chicago that he established this. Now, that went to the reasons for his making that 7 cent rate in New York. Now he proceeds to bolster it up by something that he has thought up since, which was not the foundation for his 7 cent figure at that time, and it does not go to the point. It is all *ex post facto*.

Mr. BURR: And you stated that they should be lower than
3509 5.73 cents in New York because the company not only sells three times as much gas per mile of main as does the People's Company, but sells two billion additional feet of gas, from which the general salaries and legal expenses can be properly distributed and gave those as your reasons. I now ask you if you had other reasons upon which you based your judgment of that allowance of 7 cents as against the higher rate claimed by the company.

Mr. MATHEWSON: Same objection.

A. Yes. I have many reasons which I can bring in now. I had them in the office. My theory of the relation of increased distribution and decreased cost per thousand feet was not based solely on Chicago.

Q. But you based your claim on the experience as you find it in the other companies?

A. Yes.

Q. Will you give us the experience of these other companies as you find it?

Mr. MATHEWSON: I object to going into this subject again. The witness evidently has a long writing there before him that he proposes to read. I do not think it is proper to bring that in.

The MASTER: It does not seem so to me, as he stated that he had given all he could on that subject at that time that he could. I will sustain the objection, that is, unless what you intend to show is something that has been developed by the examination of the accountants here.

Mr. BURR: I will take an exception and ask him to proceed.

A. I have been familiar with the information on the sub-
3510 ject for many years, and I will now only quote two things along that line. If we divided the several largest Massachusetts gas companies next to Boston into two groups, the smallest three, Fall River, Lawrence and Springfield, with average sales of 330,000,000 feet in the year just closed, June 30, 1906, had distribution expenses aside from taxes and repairs of 12.51 cents per thousand feet, while the four larger companies, Lowell, Cambridge, Worcester and Lynn, with average sales of 456,000,000 feet had an average cost of only 8.77 cents, showing the tendency of increasing consumption to reduce the operating cost of distribution. Another reason is the English experience. I take as my authority the Gas World Analysis of Accounts of Gas Undertakings for 1904-'5——

Mr. MATHEWSON: Just a minute. The seven Massachusetts companies are those to which attention has been called. The witness in his direct-examination proceeded to argue that the distribution cost to New York was larger than it should be and presented comparisons with all the cities that he saw fit at that time to support that argument. Now he proposes to bring in other statistics as to other cities and proposes to go over that fully. When we covered the cities he introduced on the direct fully on my cross-examination, it does not seem to me proper to introduce these additional cities and arguments at this time and compel us to go over that argument further. As far as the Massachusetts cities are concerned, he has referred to them, and more than that, I want to add this, that the situation in England as to wages, labor salaries and everything is so different from this country that without going into great detail in regard to that, it is perfectly idle to deduce comparisons.

3511 Mr. BURR: You called attention to that situation before, including the fogs. You said on page 3200 that may well be, there are other companies whose expenses are above ours, are there not? and he said yes, but I think there is no company as advantageously situated as yours in this country for low distribution cost. It is elaborating upon that statement that I ask for details.

The MASTER: There is nothing to be determined here. The testimony was objected to and the objection sustained and Mr. Burr is putting it on the record over objection.

Q. Will you proceed?

A. I refer to the account of the Gas World Analysis of Accounts of Gas Undertakings for 1904-'5, which is accepted as un-oubted authority, and I have to use it because it covers a much larger range of companies than Field's Analysis. I find according to its last returns of last June, the seven private companies whose average sales amounted to between one billion and two billion feet had an expense of distribution aside from repairs, and taxes of 6.19 cents per thousand feet, while the five companies next larger, having between two billion and four billion feet of sales had operating expenses of 4.67 cents, and the next largest company, and the one most nearly resembling New York, to wit: the South Metropolitan of London, had sales of 12,142,000 feet and had distribution expenses of only 4.42 cents per thousand feet, if we omit the expense for profit sharing and

supreannuation expenses, which in the case of the Consolidated amount to .11 cents. This experience confirms my statement that distribution expenses tend to decline with increase of sales. If distri-
bution expenses are only 4.42 cents in London and in Chicago
3512 5.73 cents, I do not think they should exceed seven cents in New York. I may add that the five English companies having sales of over two billion feet and under four billion feet, and an average expense of only 4.67 are the Brentford and Commercial companies of London, Bristol, Newcastle and Sheffield, while the seven smaller companies were Brighton, Dublin, Plymouth, Portsmouth, and the South Suburban, Tottenham and West Ham of London. I have not quoted any figures from municipal plants, as I thought the comparison would be fairer with private companies, and I have taken all of them and not made any selection. I should state that in allowing the Consolidated seven cents instead of 9.45 cents for distribution expenses, which it will be noticed is 50 per cent. larger than the London company, I have been considering what should be their normal distribution expense. It may be that the accountants will find that on account of the unusual and heavy expenses attendant upon these various investigations as to price and litigation over taxes the expenses of the Consolidated for the current year are higher than seven cents. Of course I do not undertake to say——

Mr. MATHEWSON: Why not say right off, if you are going to argue from it, else it is of no value.

The WITNESS: It is important to consider what is normal and not what was extraordinary last year for the price is now being fixed for a period of several years, and my testimony applies to what is normal.

Q. On page 3207 and subsequently you were asked by Mr. Mathewson many questions all tending to lessen the force of your conclusions on distribution expenses, by calling your attention to
the fact or alleged fact that the reported expenses of the
3513 Ogden Company in Chicago were not as great as the reported expenses of the People's, although the latter did not have as great a sale of gas per mile of main. Have you anything you desire to say upon that subject further?

A. Yes. On page 35 of the official typewritten testimony of my statements to the Chicago City Council, which I have had the opportunity of reading since my cross-examination, I find I made this statement:

"Q. The Ogden Company has some advantages in distribution from a denser territory and some disadvantages from being a much smaller company so that those expenses that relate to office and legal expenses would be much larger per thousand feet of gas sold, while other expenses like repairs of mains and meters might be smaller." In other words, the Ogden Company proves nothing either way. It is a combination of large sales and dense consumption which brings down cost of distribution. Each is a force acting in that direction, but when a company is smaller than another with which it is compared, and at the same time has a denser consumption the two forces

may neutralize each other. In the Chicago testimony, pages 47 and 48 I tried to make clear, as follows:

Q. The Ogden Company has nearly doubled the density of consumption? A. Yes.

"Q. And from that should be cheaper in distribution? A. Not necessarily.

"Q. No. A. Not necessarily, for it only sells about a billion feet, while the People's Company sells in the neighborhood of eleven billion feet. That may not be exact, but very near. Now, the fact that the one company sells eleven times as much as the other
3514 enables the salary account and the legal account and many offices expenses to be divided over a large amount of gas. Salary account for general offices, such as for superintendents, engineers, &c., would not naturally be eleven times as great in the People's as in the Ogden, so that while it is true that the Ogden Company has an advantage in the one point of maintenance of street mains and meters, it has a disadvantage in the other parts of distribution cost, and I take the figure of distribution cost of the People's Company as proving that point, because in the distribution cost of the People's Company there is included apparently, a larger amount for depreciation, or repairs or renewals than in the case of the Ogden Company, and yet they only reach 21.71 cents——

Q. The Ogden Company is a new company, is it not?

A. "It is a new company, as the president told me, and has not reached its full rate of repairs. There are other reasons for maintaining that the larger the company the smaller the expense of distribution, and that has been confirmed by subsequent information from Chicago which has been so often quoted from the accountants."

Recess until 2.10 p. m.

3515 After Recess.

EDWARD W. BEMIS resumes the stand.

Redirect examination continued by Mr. BURR:

Q. You were asked on cross-examination about the apparently much larger distribution expenses of Boston than the small cities in the State. Have you a word further to say on that subject?

A. Boston is an exception to the general rule. The experience of New England shows that.

By Mr. MATHEWSON:

Q. Perhaps New York may be the same, Professor. How do you know?

A. Well, if you wish me to reply now I will say that the accountants' examination will determine that fact of course finally, after making allowance for any expenses last year that were extraordinary and unusual in character.

Q. In New York?

A. Yes.

By Mr. BURR:

Q. In confirmation of your statement as to the price of the low gravity oil in Lowell, have you any direct information from the companies themselves in addition to the information as contained in the return to the Board of Gas & Electric Light Commissioners of Massachusetts?

A. I have the letter before me dated October 10th, from A. C. Pease, the superintendent, showing the oil used.

Mr. MATHEWSON: Just a minute. The professor has quoted here various sources of information which are not subject to our cross-examination at all, the informants not being here, and it does
3516 not seem to me that the letter will add anything to what the Professor has already said.

Mr. BURR: Well, he may state that he has the letter which is in confirmation of that statement, as to the price of the oil.

The WITNESS: It is in confirmation of my statement that the gravity test Beaume was 29. The return to the Gas Commission which I have before me shows the price of 3.13 cents a gallon.

Q. I call your attention to the question asked you at the bottom of page 3227, as follows:

"In other words, it would appear from this, would it not, that certain cities of sufficient size to have what you might call a wholesale output and were not of sufficient size to be subjected to these metropolitan exactions, might have and do have a smaller cost of distribution per thousand feet than a greater metropolitan city which has a larger output."

And a little further on you said:

"But as to Boston as compared with the other Massachusetts cities, I said I was not prepared at the present time to analyze the difference in the cost of distribution."

And again you say:

"I answered that in some cases that was true."

Now have you anything further to say upon that subject in explanation of your testimony or in amplification of it?

A. I will say, in addition to what I have already stated
3517 to-day, that exceptional differences in Boston were brought out in my testimony before the Massachusetts Gas Commission in the hearings on the reduction of price in 1904 and 1905. I there showed that the distribution expenses in Boston, particularly the management expenses, were higher than in other cities in the State and due in part to the fact that Boston was just emerging from a condition where there were seven gas companies with more or less distinct and separate office expenses. This had been partly but not fully remedied at the time of my testimony in the Boston case. The condition was very much as it must have been in New York in 1884 at the time of the Consolidation.

Q. And the data that you have already quoted from Great Britain, Massachusetts and elsewhere shows that is the general tendency, doesn't it?

A. No.

Mr. MATHEWSON: It shows it if it shows it. If it does not the witness's say so does not make it so.

Q. When being examined by Mr. Mathewson regarding the physical conditions of Boston and Chicago, and their comparison with the conditions which he claims exist in New York you were asked about Philadelphia——

Mr. MATHEWSON: No, I didn't ask him anything about Philadelphia. I didn't mention it.

The WITNESS: That is a question you asked Mr. Burr. I thought it was a question he asked.

Q. Well, as a matter of fact, so far as physical conditions in Philadelphia are concerned the streets are wider and less congested than New York?

A. Yes.

Q. And while on the subject of possibility of the Consoli-
3518 dated Gas Company purchasing increased amount from the subsidiary companies you were asked (pages 3237-8):

"And if the company were manufacturing, or as soon as it commenced to manufacture its own gas entirely, there would be additional repairs and renewals due to this three billion feet or such a matter which is now procured from other companies?"

You did not answer that question fully. Have you anything to say further in amplification of your answer there?

Mr. MATHEWSON: Look at the top of page 3238. I think he answered it exactly——"A. If it stops buying from them. Q. If it manufactures its own gas? A. Yes."

Mr. BURR: I say, has he anything further to add in amplification or explanation of that?

A. I will state that I have lately ascertained from exhibits of these several companies with which the Consolidated has Agency Agreements, exhibits which were not accessible when I testified before the State Gas Commission, that the average cost of repairs at the works of these companies is about one and one-third cents per thousand feet. An increase, therefore, of one and one-third cents per thousand feet on about 3,000,000 feet sold to the Consolidated, if divided over the ten billion feet now made by the Consolidated would not increase the repair account one-half cent per thousand feet. The repair and renewal account together might amount to one-half to two-thirds of a cent, but that is divided over the entire output.

Q. And while you are on that subject and along on the same page, after the testimony I have just called your attention to,
3519 you were asked if you should not also take into account the fact that repairs and renewals at Astoria would be greater per thousand feet than in the water gas plants of the Consolidated, and therefore that you should take that into account in considering the proper cost of gas. What have you to say as to that?

A. Repairs and renewals are certainly greater in a coal gas plant than in a water gas plant, but the total operating cost in an up-to-date coal gas plant in New York properly situated might be considerably

less than those of a water gas plant, as seems to be the evidence by the Central Union——

Q. You were asked at the bottom of page 3239 with regard to taking three per cent. and applying it to the Consolidated Gas Company's depreciable property, and what would be the result?

A. That and a proper amount for repairs would not exceed 10.89 cents during the last twenty years.

Q. Well, you were asked if you applied that three per cent. depreciation on the property of the Consolidated as the new Massachusetts law required when approved by the Gas Commission in the case of municipal plants, whether that would not mean at least 4½ cents per thousand feet for depreciation and renewals in New York?

A. It very likely would. The actual renewals of twenty years in New York were 3.73 cents according to the exhibit prepared by the company, but the 7.16 cents for repairs which was the other item in the 10.89 cents is rather larger than was testified to by either Mr. Cowdery in Chicago or Mr. Humphreys in Holyoke. So an ordinary allowance simply for repairs or repairs and depreciation together, I think, would still be within the 10.89 cents in New York City. That is under the conditions existing here. And, further, in Massachusetts,
the Gas Commission does not always insist upon three per
3520 cent. They can do that if neces-ary.

Q. You were asked at the bottom of page 3247 whether you did not take thirty-three years in your estimate before the Gas Commission as your estimate of the average life, as contradistinguished from the forty years of Doctor Humphreys?

A. I have discovered on page 41 of the typewritten copy of my testimony before the Chicago City Council that I there assumed in my testimony that Mr. Humphreys had somewhere held that thirty-three years was the average life. I stated to the Chicago Council as follows:——

Mr. MATHEWSON: My question was whether before the Gas Commission here the witness did not assume a thirty-three year period?

Mr. BURR: Do you remember the testimony which you quoted from the Gas Commission referred to some statement he had previously made to the Chicago City Council, so he is going to the source of this statement—and it may be a misstatement—to contradict or explain it.

Mr. MATHEWSON: The simple question was whether before the Gas Commission, at page 3247 of this record here the witness did not assume a thirty-three-year life for a plant. What he said in Chicago I did not inquire or care about.

Mr. BURR: He said in answer to your question he did not remember. Now he gives the facts.

I stated to the Chicago City Council "thirty-three years is less than the average life of a plant," but in order to be conservative I later
stated that I would take thirty-three years in Chicago and im-
3521 mediately afterwards used the same figure in New York.

Q. You still say that a gas works, predominatingly a water gas works, has a longer life than thirty-three years?

A. Yes.

Q. And as the testimony shows here, the mains being subject to practically no deterioration, you would say their average life was what?

A. Nearer fifty, of the whole plant.

Q. I call your attention to page 3255, where you were asked at the top of the page whether a sinking fund to meet depreciation would be set aside in towns owning lighting plants in Massachusetts——

Mr. MATHEWSON: I do not see that on that page.

Mr. BURR: It is put in this way.

"Q. You put it in this way. Don't you know that the towns themselves would not consent to the establishment of a sinking fund of the character that you advocate, and therefore the terms of the present law and the treatment of the accounts by the Commission? A. I don't think there has been a sinking fund except for the debt."

Have you anything in addition to say to that answer now, in explanation of it or in amplification of it?

A. I would say that a sinking fund to retire the debt within the probable life of the extension for which the debt is incurred is the improved method of financing in the English municipal plants as the Board of Trade and the Local Government Board of England hold, although they have in addition frequently a further expenditure for renewals as they go along.

Mr. MATHEWSON: I don't think that that subject was dis-
3522 cussed. It was simply a question of whether a sinking fund to take care of final renewals was provided and the Professor said he didn't know of any such expenditure.

The WITNESS: Well, now I do know that that is the way they financed most of their indebtedness for extensions in Great Britain. That is, if a municipal gas works in Glasgow wishes to borrow one million dollars for holders, they go to the Local Government Board, and the Local Government Board through its engineers has fixed upon a probable life of holders and they allow them to issue those bonds but they must create a sinking fund to retire the debt at the time the holders will have to be "scrapped."

By Mr. MATHEWSON:

Q. That is for additional holders?

A. The same is true of mains.

Q. Isn't it for additional holders and mains and so forth?

A. Any addition to the plant.

Mr. MATHEWSON: That is another proposition entirely.

The WITNESS: It is the form for many years in which they have financed their extensions. And that takes care of depreciation on those extensions, is my point.

By Mr. BURR:

Q. Now your attention was called on page 3256 to the statement of Mr. Cowdery of Chicago, that he had known a fifteen-cent variation

in the cost in a single year of gas within the vicinity, the question being:

3523 "Q. And do you remember the testimony of Mr. Cowdery of the Laclede Gas Company, of St. Louis, that he had known as much as fifteen cents variation in the cost in a single year of gas within the vicinity? A. He used some figure like that. I don't remember exactly. In the coal famine, which I thought he referred to when I heard him say it, there was of course quite a change in the price of coal and also in the demand for gas."

Now, do you desire to qualify your statement or add to it in that connection?

A. I find that the greatest change in the total cost of gas for the entire sixty-nine gas companies of Massachusetts during the last six years was during the coal famine. That is probably the most extreme case that has occurred. The average operating cost at the burner in Massachusetts distributed over gas actually sold to consumers rose five cents, from 64.6 cents in 1901-2 to 69.6, two years after that, in 1903-4; but the sales increased so fast that the actual profits increased 8.36 cents, which is above the rise of five cents in cost; while the next year, 1904-5, three of the five cents increase of expense disappeared again. The general tendency of cost during the last twenty years in Massachusetts gas statistics has been downward. I may say that in getting the divisor to use for determining the changes in the cost of gas in Massachusetts I have taken the sales to consumers and not the total sales which include sales of one company to another.

Q. On page 3277 you were asked:

3524 "Q. Well, what did you find the cost at the station was of the gas that this company manufactured itself at Boston," referring to the Boston Consolidated Gas Company, and you stated "42.05." And you were asked this question: "That is very much in excess of the cost at the station of the Consolidated Gas Company's gas, isn't it? A. Yes, they make it under very much greater difficulties than you do. They have to mix it by 'fits and starts'."

Do you wish to qualify your statement or add to it in that connection?

A. The latest information I have for Boston is for the year 1903-4, when I found that was true to an enormous extent. Even the large Bay State Water Gas Plant only made during that year, during two months of that year, six per cent. of the average monthly make, and some of the plants were shut down entirely part of the year, only making during the winter months in order to supplement the coke ovens. Gas manufactured under those difficulties is of course much more expensive than where they manufacture continuously. But even with that handicap if I take what the Bay State water gas plant made, 1903-4, and apply to it the four cents average price of oil in Boston last year and the New York City Consolidated price for anthracite coal, and the Bay State operating even under those difficulties would have had less than thirty cents cost at the holder, even though it was making so irregularly.

Q. So then the Boston Company has an average cost at the holder of 31.85 of gas made and bought and about 42 cents for that which it directly makes, is that it?

A. Yes, what it buys costs it 23 and the average of the whole is 31.85 cents, or about the same as in New York.

Q. What do you find the fact to be? Is the price at the
3525 holder about the same as to the Consolidated, as to sales?

A. It is about the same. And now I am on that, I would like to add one more point on that Boston Company. The company sells 20 per cent. of what it buys, ten per cent. of the total sales to other companies. Its average price of sales to other companies and to consumers was eighty-six cents last year and this year will be under eighty cents because of the fact that to the private consumers it sells for eighty-five cents and its price to the other companies is thirty-six cents. It sold 432,000,000 feet at thirty-six cents last year, which it obtained from coke oven plants.

Q. Are you speaking of cost to the consumer at the burner now?

A. Yes. Price. That is for the year ending June 30th, 1906, the year just closed. My figure of the current year of under eighty cents is based on the assumed sales being just the same as last year. Of course they will probably be greater.

Q. On page 3279 you were asked regarding the fact as claimed by Mr. Mathewson that the mines that supplied coal to the coke oven plant at Everett were owned by the owners of the Boston Company, and you said:

"I believe to the best of my knowledge there are other mines in Nova Scotia situated near it of about the same quality, but the price obtained in Boston for that coal I am ignorant of."

Do you wish to add further to your statement in that connection?

A. It appears that I was wrong in assuming or believing as I did then, that the same people owned the gas interests in Boston
3526 and Everett that owned the mine in Nova Scotia, because I have discovered from Moody's Manual for 1906 that not a single director or officer of the Boston Consolidated Gas Company or of the so-called Massachusetts Gas Companies which controlled both the Boston Gas Companies and the Everett plants called the New England Gas & Coke Company, is the same as any of the officers or directors of the Dominion Coal Company. All of their names and many of them are given, are different.

Q. That is the company which has a contract for supplying coal to the coke oven plants at Everett, is it?

A. Yes. Most of the directors of the Dominion Coal Company appear to be Canadians, residents of Canada; and most of the directors of the Boston Gas Company appear to be residents of Massachusetts, according to Moody's Manual.

Q. Your attention was called on page 3284 to a statement of an alleged difference made at some period some years ago in which you were stated to have said that ninety cents was a proper figure in Chicago. This testimony was quoted on that page:

"Q. But, Professor, at the time you delivered this testimony, then, that you thought ninety cents was a proper figure in Chicago, you

say it was only a guess, and you have no data to proceed upon? A. I didn't say I had none, but I don't think I had accurate data of the cost of oil and coal."

3527 Do you desire to amplify your testimony in that regard?

A. I would like to quote *verbatim* my testimony before the Chicago City Council, to which reference has been made in this examination here (pages 206-7 of my testimony that day).

Mr. MATHEWSON: Before the Chicago City Council in 1897?

The WITNESS: Testimony with reference to it in 1905.

Mr. MATHEWSON: I have not asked you about your testimony before the Chicago City Council, have I, in reference to this subject? I asked you whether in 1897, at Springfield, before a legislative committee, I think, you did not testify in favor of 90 cents as a fair price of gas in Chicago. Now you are going to tell what you testified to before the City Council a year or two ago. I do not care about that.

The WITNESS: With reference to the same subject.

Mr. BURR: You spent some time in bringing out what he said, on pages 3283-4-5, as to the apparent inconsistency between his statements now and then. That you claimed in that year he said 90 cents was a fair and reasonable rate for Chicago.

Mr. MATHEWSON: If you read the testimony you will find you are mistaken. I asked whether in 1897 he did not testify in Springfield—that was Springfield, Illinois—that 90 cents was a fair basis for gas in the City of Chicago, and he said he did, but it was more or less of a guess. Now you ask what he testified as to this before the Chicago City Council a year or two ago.

3528 Mr. BURR: I call attention to page 3283, where, in order to show that he did so testify in Chicago, you read from testimony before the New York Gas Commission and stated as follows:

"I read from page 1336 as follows:"—

The MASTER: I have it before me.

Mr. MATHEWSON: That is before the Gas Commission.

Mr. BURR: Well, this has reference to the subject I have immediately in mind. I will continue reading it (page 3283):

"Q. Now, in 1897, you testified in Chicago, if I am correct in my assumption, that 90 cents was a fair price for gas in the city of Chicago?"

3529 By his answer it is quite evident he didn't see what you would mean to have him say. He answered,

"A. I don't—that was brought up in a hearing in Chicago the other day. I don't know what it referred to, as I didn't give any testimony in 1897, and I never gave testimony in the Chicago Gas case—Oh, I thought—yes, it was a hearing in Springfield, not in Chicago."

Mr. MATHEWSON:

"Q. But relative to Chicago?" The inquiry I made of the witness was in reference to his testimony in 1897. Have you got his testimony of 1897?

The WITNESS: No.

Mr. MATHEWSON: Of course you haven't got it.

Mr. BURR: Why do you say "of course"?

Mr. MATHEWSON: Because he just said he hadn't it to you.

Q. Have you found a verbatim report of your testimony on the subject taken before the Chicago City Council?

A. In 1905, yes.

Q. Will you tell us just how this question of 90 cents being a reasonable rate for Chicago was first raised, so far as you are concerned?

A. The first I know anything about it was during my testimony in 1905 before the Chicago City Council.

Q. Under what circumstances was that testimony taken?

A. I was speaking before the Chicago City Council or before a committee of the Council with respect to a reasonable price for gas in 1905, and the attorney of the People's Company and Mr. Sullivan, president of the Ogden Company, asked me if I had not stated in Springfield, Illinois, before a committee of the State Legis-
3530 lature in 1897 that at that time 90 cents was a reasonable price. And I was going to show how, when this was first mentioned to me, how I answered it before the Chicago City Council Committee.

Q. Now do you desire to explain under what circumstances and conditions you said in 1897 at Springfield, Illinois, if you did so, that 90 cents was a reasonable price in your estimation for Chicago?

A. I do not believe I said it but I had come to the conclusion that I must have said it because it came to me in this examination two or three times, and I was inclined to assume that they knew I said it but I cannot remember and do not now believe I said it.

Q. And you so stated, did you not?

The MASTER: That all appears on page 3285. What he has just been saying he stated there.

The WITNESS: I have a confirmation of it in the testimony I gave in Chicago and that is why I wanted to read a sentence.

Mr. MATHEWSON: I don't think that confirms anything. I didn't ask about that.

Q. At all events in 1897, was that the time of the consolidation in Chicago?

A. I think it was, but I am not absolutely positive. There was some legislations connected with a new Gas Act then, I think. Just what I do not remember.

Q. You have been asked at this hearing about your previous testimony in Chicago with respect to the price of oil there and also with respect to the price of oil in Cleveland. Have you anything further to add in that connection or do you desire to modify your answers in that connection?

A. I will quote what I said in Chicago.

3531 "By Mr. MEAGHER:

"Q. And did you agree with me that the oil would cost 14 cents?" That refers to per thousand feet. "A. I took your suggestion that oil was 3 cents a gallon and on that basis I worked out a result. I didn't know what the oil was. You were my only authority.

"Mr. MEAGHER: Yes, that is right."

Page 198 of my testimony.

Again, with respect to Cleveland, page 91 of my testimony before the Chicago City Council:

"Q. Is coal and oil about the same price also in Cleveland as here? A. I think he said a little cheaper there. I don't know the exact figures either there or here but the vice-president and treasurer of the company told me the other day that they were paying 4 cents for gas oil there. I could hardly understand it because if they are, they are paying as much apparently as is being paid here, which Mr. Meagher said was 3 cents per gallon, although I did not know exactly."

I merely quoted to show I did not claim to be positive even in Chicago.

The MASTER: Does this refer to pages 3293 and 3294?

Mr. MATHEWSON: The Master will remember I merely asked the witness whether that was not his best information. He said yes, I do not see that this modifies that at all. On page 3293 that is a quotation from the Professor's statement to the Chicago City Council.

3532 Q. You have been asked regarding the comparison between Chicago and New York as gas making centers and the conditions that prevail in each city, and you have given some statements in that connection. Have you anything further to add in that regard as to what constitutes any difference or distinction between the two cities in the manufacture and distribution of gas?

A. I merely wish to bring out in one sentence the fact as I understand it: there is a more stringent effort here to prevent the use of soft coal than in Chicago, thereby forcing upon the people the choice of a more expensive fuel or gas for furnace use and household heat. In fact all through the West there is more leniency in allowing soft coal than in New York City. This, I think, tends, other things being equal, to furnish a better market both for gas and for coke.

Q. On the top of page 3323 you said something about the return of the Laclede Gas Works being four and one-half per cent. on a legitimate capitalization. What did you mean exactly by that?

A. Well, I don't think I apprehended the question and don't think my answer was appropriate. I don't think my answer was based on an understanding of the question. Of course the present dividends, I believe they were five per cent. on the stock, and interest of five per cent. on the bonds would become much more than five rather than less if the capitalization were reduced, and the premium on the said securities would proportionately rise, I believe. Whereas I seem to state that it would be 4½ per cent. on a legitimate capitalization, by which I meant a small capitalization, so my statement was not an accurate answer: it was made without much understanding of what the question was; I believed it was purely a mathematical statement that would reduce the capitalization and keep some earnings, and

the earnings would be a larger percentage on the same capitalization, of course.

3533 —. Calling your attention to page 3328 and to the questions asked you there with regard to the Massachusetts companies and about the dividends in Massachusetts, have you anything to add to what you said there?

A. I have to add that the dividends during the fiscal year of 1904-5 of all the Massachusetts companies were $1,864,701.50, which was 6.71 per cent. of the capitalization, of the stock, of $27,783,404.

Q. I will ask you while on this subject of dividends, have you, in view of your cross-examination by Mr. Mathewson upon the subject, obtained any additional data regarding the Massachusetts companies?

A. I have simply noted the fact that I already had in mind in a general way, that the Massachusetts Gas Commission has frequently ordered reductions in price which the companies have accepted, although at the time of said order the company had only been paying six per cent. dividends.

Q. Have you any special instances in mind in that connection?

A. Yes, I have taken all instances in the last five years. Springfield is the first in date. The Gas Commission ordered a reduction to take place November 1st, 1900, in Springfield from $1.25 to $1.00. The dividend was only six per cent. in the previous year and at the time the reduction was ordered. The next year, 1901-1, the Gas Commission ordered a reduction in East Boston from $1.40 to $1.25. The dividend was nine per cent. before the reduction. The same year in Waltham where the dividend was six per cent. the Commission ordered a reduction from $1.50 to $1.25. In Newton the same year, where the dividends were eight per cent., the Commission ordered a reduction from $1.40 to $1.30. In the next year, the fiscal year, 1901-2, Chicopee was paying no dividend and the Com-

3534 mission permitted an increase in price from $1.40 to $1.50.

In 1903-4 Chelsea was paying six per cent. and the Commission ordered a reduction from $1.25 to $1.10—these are all net prices. The same year East Boston was paying six per cent. dividend and the Commission ordered a reduction from $1.27 to $1.00. The same year Newburyport was paying six per cent. dividends and the Commission ordered a reduction from $1.50 to $1.40. And during the year 1904-5 Charlestown was paying ten per cent. and a reduction was ordered from $1.01 to $0.90. In all these cases the reductions were noted in the report as having been accepted by the company and the price reduced accordingly.

Mr. MATHEWSON: I do not see that that has the remotest bearing on any examination of mine.

Mr. BURR: Well, you examined with regard to dividends in the Massachusetts companies.

Mr. MATHEWSON: No, not on that at all.

Q. On page 3349, after a lengthy conversation between you and Mr. Mathewson with regard to the probable buying out of a company by another company and what should be allowed for depreciation, &c., and a distinction being drawn as to whether it was going out

of business or was a going concern, you said in the midlde of the page:

"But I answer positively that if a new company bought the old one out as a going concern it would not have the right to capitalize any of the price it paid for the old company, but only could continue to earn on the original structural assets. That was tried in Haverhill and the Massachusetts Gas Commission ruled it out.

"Q. And that is still at issue and the courts have not decided it yet? A. Yes."

3535 Have you any further information on that, and do you desire to add anything?

A. I desire to correct a statement I made there. As I understand the Haverhill case, the issue was not the right to capitalize any sale over and above the physical or structural value, but the question was a more radical one than that. It was a question whether a company had the right to capitalize the structural value if it had been created out of the consumer, that is, if it had not been a stock subscription by the stockholders, but where the stockholders had been receiving regular dividends and the company had used surplus earnings from the sale of gas to build up the plant, until it had become worth even in structural value, a great deal more than the stockholders had put into it, then the Gas Commission ruled that they could not capitalize that surplus; so that it was a very much more advanced position than I intended in my statement. That case has not yet, I think, been decided. It is still in the Courts, and, of course, it has a very direct bearing on the present case, because even all——

Mr. MATHEWSON: Just a moment. I move to strike that out.
The MASTER: Strike it out.
Mr. BURR: Exception.

Q. Has that situation any bearing upon this case in your view?

Mr. MATHEWSON: I think it was excluded, was it not?
Mr. BURR: I have just asked the question.
Mr. MATHEWSON: Objected to as purely a conclusion.
The MASTER: Objection sustained.
Mr. BURR: I except. You may answer, Professor.

3536 A. It is the same principal as is involved in the capitalization for all the increase in the value of the property since its construction, for all the property since 1884 of the Consolidated Gas Company, as I understand it, there has been very little increase of stock for the purpose. I believe there has been $1,300,000 and odd in bonds, but I believe most of the increase since 1884 according to the testimony in the case as I recall it, has not come from the sale of securities, while dividends have been paid regularly.

Q. You were cross-examined, Professor, quite minutely by Mr. Mathewson, on the question of whether the company was entitled to a return on the two million dollars due from consumers, page 3357.

Mr. MATHEWSON: My proposition was that the Company was entitled to a return on its working capital whether in the shape of cash or any other shape up to a reasonable figure, which Dr. Hum-

phreys testified was about four million dollars, and not on any special consumers' deposits or amount due from consumers.

Well, do you desire to add anything to your testimony or explain your testimony in that connection Professor?

A. Well, I do not find any evidence that any securities were issued or any obligations contracted for which the Company is obliged to pay interest or dividends in order to have secured that two million dollars, but they are in the nature of an accumulated surplus.

Mr. MATHEWSON: That was all gone over in almost that exact language.

The WITNESS: I think so.

3537 Q. On page 3370 and on page 3375, your computations were questioned and their accuracy called into question with respect to the increase claimed by the Company in the value of their property since 1884 as compared with the increase in book value. Do you desire to add anything to your testimony or to qualify your testimony in that regard?

A. Yes. Complainant's Exhibit 79, page 347-a gave the book value as of October 31, 1905, as I believe, $39,883,984.91, while my computations of the claims of the Company now, using $4,200,000 for meters and personal property, $1,994,034.35 for services, $12,636,150 for mains, $19,115,793 for buildings, machinery and holders, and $15,651,500 for land amounts to $53,597,477.35. The difference between those two totals is $13,713,492.44, and represents, as I understand it, the claim of the company for increase of value since 1884 not accounted for by the nine and one half million or ten million dollars that they have designated as new construction. Further I find that leaving out all question of land, mains and services, there is an increase in the appraisal of buildings, machinery and holders further than is covered by the item of extensions of $3,028,364.28, personal property and meters, $397,455.50, or a total of $3,425,819.78. So that in so far as those figures are correct, and in so far as there is such a value, to say nothing of any value that may be admitted on account of growth of land and mains and services, to that extent is the 10.89 cents too high rather than too low. But I continued to use 10.89 cents.

Q. And to that extent you have given the benefit of that higher allowance to the company?

A. Yes. I recognize the duty of making a further calculation when the revised appraisals now being made are in, but this is only taking the company's testimony.

3538 Q. I understand. You stated that previously, and I so understood it. Your attention was called to the cost of duplication in Chicago on page 3377. Now let us take up the City of Chicago. Mr. Mathewson said "What was your estimate in the Chicago report to the City of Chicago as to the cost of duplication of the Chicago Gas Works. A. I think I spoke of a new plant as $3.20 per thousand feet." How do you reconcile that with the cost in this case as you claim it to be, an increase in book value since 1884 of $2.20 per thousand cubic feet?

A. The difference in the mains in the two cities will account for almost the entire difference. There are if I remember right about 795 miles, or call it 800 miles, in use in New York, and 2,000 miles in use in Chicago. In other words, 150 per cent. more in Chicago. You take the book value even of the mains here in New York, which is, I think, in the neighborhood of $7,600,000, I don't recall exactly at the moment, but about that, and 150 per cent. of that is $11,400,000, and that alone divided into the 13,300,000,000 feet of sales would make 90 cents of capitalization per thousand feet, or account for almost the entire difference. Then again, I was considering in the case of Chicago a plant that was buying its land more recently, while in New York I was considering the land as bought many years ago.

By Mr. MATHEWSON:

Q. The land is worth the $5,000,000 which you claim Yalden found it cost the original companies?

A. What the land is worth now in New York or what it ought to be worth—wait a minute, what was your question?

Q. In other words, you took land here at about $3,000,000, didn't you?

3539 A. Yes, I think so, Yalden's figures of about $20,000,000 plus about $9,000,000 and a little over increase since——

Q. Yes, about $21,000,000—$20,942,000?

A. Yes. So that I think that the difference, while I make no attempt to say that the Chicago statement was the result of any long study, for it was not and does not claim to be, yet I do not see any marked discrepancy between it and the valuation here, when account is taken of the enormously larger number of miles of mains in Chicago for the same amount of sales; in fact, for less sales, for they sell only eleven billion feet with 2,000 miles, while here they show thirteen billion feet for 795 miles. On the other hand the Consolidated Gas Company does not have manufacturing capacity sufficient to take care of all its sales, its manufacturing capacity being between ten billion and eleven billion feet a year.

Q. On page 3383 you were asked:

"Q. You made an estimate to the City of Montreal, I think quite recently as to the establishment of a plant there. Do you remember what your estimate per thousand feet of sales was for that plant? A. Not exactly. I will look at it and verify the figures.

"Q. Will you look at it and see if it was not $4.30 per thousand feet of sales?"

Will you explain how that estimate was made?

A. Yes. It was not as large per thousand feet of sales as the New York basis, if the difference in size of the plant is considered. For example, in Montreal the mains average $6,886 a mile; meters, $8.00 a piece; services, $21.65, and the coal gas manufacturing plant $200 per thousand feet capacity, the water gas plant $100 and the holders about $75.00 per thousand feet, between $75.00 and $80.00.

3540 Those figures multiplied into the New York capacity and the lengths and so forth bring out less than $1.70 per thousand feet, but there would have to be larger mains per mile than in Mon-

treal, and that merely indicates that there is no contradiction between the terms. My unit figures are lower in Montreal than Mr. Mayer took here with respect to coal gas or water gas or holders, but in Montreal I made what I thought a very liberal allowance on the cost of mains for the size required there because the city engineers and other engineers in Montreal and everybody including the officers of the gas company told me that mains had to be laid six feet deep there to protect them from freezing, while here I do not understand that they are much more than three to four feet from the top of the main to the surface of the street. They have very great difficulties from cold weather in Montreal. The present company's mains are not laid quite as deep in all cases, but they wish they were, so I was making a computation for the city based upon a new plant. And then I had this point in mind that this was a report to a city that was considering the possibility of building a plant of its own, and I thought it was just as well to be very careful, and where any possibility of doubt existed I took what I thought to be the higher prices as I did not feel that I wanted them to be led into a question—into a wild goose chase. But I do not see any inconsistency between those prices so far as magnitude is concerned and here. It must be remembered that they have to have many more miles for the same output than here. I estimated an output of only a billion feet and 250 miles of mains, while here they only have about three times as many miles of mains for about thirteen billion feet of output. But I based it on a study of the city.

3541 Q. You were asked about the capitalization of all the companies in the United States which was stated to be $8.47 per thousand cubic feet of sales according to the computations of the city statistician of Chicago. Have you anything further to say about that?

A. I will call attention to the fact that Massachusetts according to Mr. Grosser, had a capitalization of only $3.96 per thousand feet of sales, according to this computation, while, approaching it somewhat differently—I don't know just his method, I reach $4.03 as the capitalization from the Census Bulletin, which I suppose he used, United States Bulletin, No. 123, dated January 23, 1902. And I would say that the average size according to this same bulletin of the Massachusetts company was 68,727,000 feet of sales or less than the average of 877 companies in the United States which was 76,504,000 feet of sales, so one would expect the cost, or the stock and bonds per thousand feet of sales would be higher rather than lower in Massachusetts, especially when we consider that Massachusetts is among the colder States, where mains have to be buried somewhat deeper to protect them from frost and so forth. I therefore do not place much weight upon the returns for the United States, where there has been no restriction of capitalization for the last few years as there has been certainly for the last few years in Massachusetts.

Q. Your attention has been called many times by counsel for the Complainant to the report of the Committee on Gas, Oil and Electric Light to the Common Council of the City of Chicago, dated June 30, 1906, and you have been examined at some length in regard to the

statements purporting to have been made by Mr. Cowdery and others therein, and I understood you to say that in giving your statement as to the cost of manufacturing and distributing gas in Chicago, you took the figures as presented in this report by Marwick, Mit-
3542 chell & Company, and their report on the People's Gaslight & Coke Company to the Chairman of the Committee on Gas, Oil and Electric Light of the Common Council of the City of Chicago, as this same appears on page 40?

A. Yes, sir.

Q. In which communication dated January 22, 1906, they state: "In accordance with your instructions, we have made an examination of the accounts of the People's Gas Light & Coke Company, of Chicago, and compared the statement submitted by them as purporting to show the cost of manufacturing and distributing illuminating gas in the City of Chicago in the year 1904, with the relative vouchers and the manufacturing accounts in their ledgers. This statement was classified under several headings. We have eliminated from each heading, such items (if any) as were in our opinion erroneously charged therein. The result of our examination is summarized in the following figures:

	As stated by P. G. L. & C. Co.	As revised, M. M. & Co.	Difference.
Cost of manufacturing.....	31.8193	28.2204	3.5989
Cost of distributing (including renewals)	21.7101	17.2344	4.4757
	53.5294	45.4548	8.0746

"We should have been accorded an opportunity of more fully examining several of the distributing and other accounts in the ledgers that bear directly on this investigation, but this was denied us. Had we had access to these accounts the cost of manufacturing and distributing might have been somewhat further modified.

3543 "It appears right that we should state that the figures submitted by the People's Gas Light & Coke Company include charges for renewals which, we were informed were considered adequate to maintain the property at a fair operating standard of efficiency. These renewal charges were accepted by us in our revision of their figures. No allowance is, however, included in either statement for that wear and tear which is generally conceded to occur in excess of that which is covered by renewals.

Yours truly,

MARWICK, MITCHELL & CO.,
Chartered Accountants."

This letter is addressed to Honorable Lynn H. Young, Chairman of the Committee on Gas, Oil, Electric Light of the Common Council of the City of Chicago. On page 41 appears a second letter addressed to the same Lynn H. Young as such chairman, dated Chicago, January 26th, 1906:

"DEAR SIR: Replying to your communication of even date, I wish to advise you that there is 6.0043 cents per thousand feet included in the figures for renewals and repairs, in the year 1904, and included in the figures in the distribution of gas, as shown by the People's Gas Light & Coke Company and our report.

Yours truly,

MARWICK, MITCHELL & CO.,
Chartered Accountants."

On page 3404 you asked——

Mr. MATHEWSON: Well, was there any question in connection with that?

3544 Mr. BURR: Yes, the question went before the reading. I referred in my former question to this paper and then I read it.

Mr. MATHEWSON: The witness has not answered the question, has he?

Q. You know that those two communications appeared in this book which Mr. Mathewson has referred to so often on pages 40 and 41?

A. I have read such a letter as you were reading.

By Mr. MATHEWSON:

Q. That is the same book to which Mr. Burr has called your attention in your direct-examination, is it not, as to what the accountants found in Chicago?

A. Who called my attention to it in this case first, I do not remember. Of course I knew of the book before.

By Mr. BURR:

Q. When you made your statement on your direct-examination as to what was the cost of manufacturing and distributing gas in the City of Chicago did you base such statement on this report that I have read of Marwick, Mitchell & Company or upon anything else in addition?

A. I based it upon that report.

Q. On page 3404 you were asked about the profits on the capital investments in all those cities that had reduced their price within the last ten years?

A. Yes. I have had that matter looked up since the last hearing.

Q. You have investigated that matter?

A. Yes.

Mr. MATHEWSON: Since the last hearing?

The WITNESS: Yes.

3545 Q. What do you find to be the facts?

Mr. MATHEWSON: I object to this as not proper redirect-examination, the investigations of the witness since the last hearing.

Mr. BURR: You would not let him make an investigation or give the result at the time you asked him on page 3304. Now I understand he is amplifying his testimony or explaining it in that regard. Is that so?

The WITNESS: Yes.
The MASTER: To determine what the increase in assets as mentioned in your testimony bears to the increase in sales, is that it?
The WITNESS: Yes.
The MASTER: He may answer it.
Mr. MATHEWSON: Exception.

A. I have found that the profits the year before reduction as given in the table to wit $1,445,750.64 were 11.94 per cent. of the stocks, bonds and notes payable, which amounted to $12,108,400. I find that the year after the reduction the profits amounted to 11.52 of the stock, bonds and notes payable then outstanding which were $12,626,800; in other words the profits fell off only .42 of 1 per cent. from 11 94 to 11.52 per cent. I find further that the sales increased 28.92 per cent., the receipts 14.48 per cent., the stocks, bonds and notes 4.28 per cent., the assets 10.8 per cent. But if you leave out Lowell and Lawrence, which made large increases, it was 7.17 per cent. increase in assets as reported in the Massachusetts gas reports, and the sales increased—I think, perhaps, I stated that increase 28.92, while the reduction in price was 10.83 per cent. In
3546 other words, the requirement of interest and dividends did not increase anywhere near as fast as the receipts, but the assets increased nearly as fast. But if you leave out Lowell and Lawrence the increase is only 7.17 per cent. One cannot know those assets very well without going into each plant individually. In Boston from 1892-3 to the year 1895-6 when the price fell from $1.35 to $1.00——

Mr. MATHEWSON: Did I ask you about Boston in that connection?
The WITNESS: Perhaps not.
Mr. BURR: I think you did. You say on page——
The WITNESS: The table that I have been testifying about was Table 19 giving the effect of all the reductions in price outside of Boston since June 30th, 1894 in Massachusetts. Thirty cases there were in that table. I was starting to say, that in Boston when the great reduction came from $1.35 to $1.00, it was $1.35 in 1892-3 and $1.00 in 1895-6, the sales increased 41.4 per cent. and the assets 35.9 per cent. That was a case of larger increase of assets than in the case of the Massachusetts cities outside of Boston, for it was accompanied with a duplication of mains by the Brookline company and many other features of investment that would not be necessary where there was no more competition in gas than exists now in New York City.
Q. What has been the effect on profit of price reduction in New York City?
A. I find that during the five years ending with 1895, the sales in New York at an average price of $1.25½ were 33,173,000,000 feet, and during the five years of a ten-year later period ending with De-
cember, 1905, they were 61,011,000,000 feet, or nearly double,
3547 while the assets increased only nine per cent. and the dividends double while the price fell from $1.25 the first five years to $1.00 during the second five year period, a decade later.

By Mr. MATHEWSON:

Q. Does that include all the companies, or the Consolidated Gas Company alone?

A. The Consolidated Gas Company. I have also compared the year 1897, which has been spoken of by Mr. Cowderry, as a year of great cost—no, as the year when costs were lower than they have been since, with 1905, and I find that in 1897 the price in New York was $1.22 and in 1905 it was $1.00. But I find that the sales have doubled and that the dividends doubled.

Q. What do you mean by the dividends doubled? What do you mean, in rate, or what?

A. The dividends in 1897 were $2,850,392, and they were about twice as much in 1905.

Q. And the stock was about twice as much, wasn't it?

A. The book value of the assets increased from $44,576,521.05 to $47,664,984.91. In other words, the assets increased only $3,000,000, or less than eight per cent., while the divided profits doubled, showing that the tendency has not been for the cost of gas making to rise since 1897, due regard being had to the effect of price reduction from $1.25 to $1.00, in enormously increasing sales, taking account also of the fact that there is a growth of population which also tends to increase sales.

By Mr. BURR:

Q. Have you any facts in this connection regarding Milwaukee?

A. First, let me explain about this.

Q. Well?

A. One explanation partly explaining this is further the
3548 fact that, to go back a little longer, comparing 1885 with 1905, for I have not the data for the intermediate period, I find that while it is true as brought out in some exhibits and testimony of the complainant that the sales per meter have not increased during the last twenty years, I find that the sales per service have increased from 43,660 feet in 1885 to 153,851 feet in 1905. In other words, there are actually less services in use now than there were in 1885, if I understand right the exhibits. There appears to have been according to the Rowland valuation as I have been able to compute it, for it is not exactly given in so many words, but by adding half a dozen columns at the close of the report of 1886, I discover 90,299 services in the plants that form the Consolidated Gas Company while in October, 1905, that has shrunk to 86,338 services, 4,000 services less, while the consumption had grown from about five billion feet in 1885 to over thirteen billion feet in the twenty years. The consumption per mile of main likewise had increased from 5,507,807 feet in 1885 to 16,606,461 feet in 1905. Although the consumption per meter has not increased, there are nearly four times as many meters off the same service pipe as formerly and off from the same mile of main, so there has been required very little increase of travel to oversee the mains and services in the twenty years. In fact, the number of miles of mains does

not increase largely. I have forgotten exactly, but I do not think it has increased more than 20 per cent.

Q. What has been the effect on *price* of price reduction in Syracuse?

Mr. MATHEWSON: Now, is this re-direct? Has any question been raised as to Syracuse either on the original examination or
3549 my cross-examination? Have I got to chase up Syracuse?

The MASTER: How is that, Mr. Burr?

Mr. BURR: Do you decline to receive this information?

Mr. MATHEWSON: Yes.

Mr. BURR: Well, I do not know that the Master would refuse to take the example of a single city upon this very important question as to the bearing of the reduction of price upon consumption here in our own State quite recently. I think that we ought to give him all the information that is available, and that was not available at the time we had our direct-examination, and I would like to have you have the benefit of it now. So with that in view I would ask the Professor to let us have the facts in that regard.

Mr. MATHEWSON: Syracuse has not accepted the order of the Commission, which was merely an order for a reduction from one dollar to ninety-five cents, and my information is that they are not going to. I do not see how any deductions from that are going to be of value, aside from its not being redirect-examination. It is still in the Courts.

Mr. BURR: I submit that if he will give us the facts, they are very brief, and he thinks they are not applicable to this case, he may move to strike them out, and then the Master can grant the motion. But I think they are pertinent as giving a thorough understanding of this very imporant point as to the effect of reduction upon consumption.

The MASTER: I do not think it is re-direct, but if there has been any development as to Syracuse, which under the course pursued here would have been allowed in the first instance, I will
3550 take it now, but merely the facts with regard to it and no arguments deduced from it.

A. In the Syracuse case before the Gas Commission last spring the company gave the following facts. That the net price in 1901 was $1.1776 and I have it for each year, but will read the last year, 1905, average 98.98 cents. The sales meantime increased from 229,348,300 feet to 352,806,500 feet or about 50 per cent., and the profits increased despite the fall of 19 cents from $104,379.43 to $140,759.14.

Mr. MATHEWSON: Gross or net?

The WITNESS: Net.

The MASTER: It does not appear but what that was entirely available when the Professor was on the stand.

The WITNESS: I did not happen to think of it.

Q. With respect to the 10.89 cents which you took as covering repairs, renewals and depreciation based on the average of the twenty

years preceding 1905, do you find in the record in this case testimony which confirms that position which you take?

A. Yes.

Q. And if so will you please refer to it?

A. I find from Complainant's Exhibit 85 on page 458 and from the State Exhibit L, page 45, that during the last three years repairs and renewals both were only 7.7 cents per thousand feet, but I find that Mr. Bradley on page 176 of the testimony of this case was asked this question on July 15th:

"Q. Would you say that they (speaking of the holders and plants) were in better physical condition to-day than they were three years ago? A. I think so."

3551 In other words, although only 7.7 cents per thousand feet have been spent the last three years on renewals and extensions, Mr. Bradley thinks the physical condition of the holders and the plants better at the end of the time than they were in the beginning, which bears very decidedly, it seems to me, on the fact that 10.89 cents is certainly a conservative statement to take for repairs and renewals. For if they were at the end better than in the beginning there was no depreciation.

Mr. MATHEWSON: I suppose counsel could not have presented that argument as well as you did, having the facts before him. It is simply an argument and nothing else.

Q. In your cross-examination by Mr. Mathewson you were made to appear as taking the ground that the company was justified in capitalizing the increase of the value of its plant aside from any increase in the value of land or paving, provided it made allowance for this increase in its repairs, renewals and depreciation account. Is that your contention or is that your claim?

The MASTER: What page?

Mr. BURR: Well, it runs through his examination.

Mr. MATHEWSON: I do not quite follow that. I do not recognize the theory. Is that quite right? Cannot you point some place here in the testimony where that appears to have been suggested?

The WITNESS: It was the structural value.

Mr. MATHEWSON: That may be, but that was another thing.

Mr. BURR: That is the trend of your cross-examination as

3552 I remember it and as I recall it. Now, I do not want to leave that unexplained or leave the record with that apparently the Professor's opinion, if it is not his opinion, and I am asking him now whether he desires to add anything to that or whether that is really the position he takes.

Mr. MATHEWSON: I do not understand the question. I do not want to delay the proceeding, but I should like to have the question read.

(Question read by stenographer.)

Mr. MATHEWSON: I do not remember such a suggestion.

A. The word capitalizing may be interpreted as the right to earn dividends from such an increase in value. I have some doubts as to whether such portions of the increase as was due to surplus profits

should be capitalized. In other words, I have some leaning towards the position taken by the Massachusetts Gas Commission in the Haverhill case. At the same time I have made computations on the basis of assuming that they could capitalize any increase or claim the right to earn six per cent. on increased value on any part of their property aside from land and paving, provided that they made allowance for that in fixing the repairs, renewals and depreciation percentage.

Q. You are quoted as having said in Chicago that you did not know of any new case that had been started on a six per cent. basis in the last thirty years.

A. New company, that should be.

Q. Do you wish to qualify that statement or add anything to it?

A. Well, I do not know of any new company at all in the last thirty years that has started in on the basis that I am contemplating giving to the large gas companies of this country,
3553 namely, a company starting in with the entire field for itself with a practical monopoly. The only cases that I know of are where they have started in in competition with existing plants, which is a theory I do not believe in in the gas business.

Q. Now, Mr. Mathewson examined you quite at length as to the statement made by Mr. Cowdery in this report of the Committee on Gas, Oil and Electric Light to the City Council of Chicago, and to his qualifications and expressed the opinion to which your attention was immediately directed. Did you hear Mr. Cowdery make this statement appearing on page 13 of that report with regard to the City of Milwaukee (handing book)?

A. I have read this and it is in harmony with my general remembrance of what he said at that time.

Q. Will you read it?

A. (Reading:) "I left Milwaukee in the spring of 1903, after being there for twenty-six years. While I was in Milwaukee, the price was reduced from $2.75 a thousand, to $1.00 a thousand for lighting, and 80 cents for fuel. I was known in Wisconsin as the champion of reduction in the price of gas. The price in Milwaukee for illuminating purposes has been reduced within the last year. The price is now $1.00 for the first 1,000 feet in any month, and for all additional illuminating gas used during the month, the price is 90 cents. Fuel gas is furnished at 80 cents per thousand. A reduction is made to large users. The first 10,000 feet of gas used in any month is sold at 80 cents. The next 10,000 feet is sold at 70 cents and all additional gas through the same meter during the same month is sold at 60 cents. These reductions have been entirely voluntary on the part of the company. Such reductions have been made
3554 to cultivate the larger use of gas for fuel purposes, to encourage manufacturers and others who desire to use large amounts of gas monthly. The result of such reduction has been to increase the sales of gas and to increase the profits. This has been the result in a large number of cities where reductions have been made."

Q. You have no reason to doubt that statement or those statements?

A. No.

Q. Will you explain a little more in detail, Professor, in view of your cross-examination, what is your view of a sinking fund as applied to the depreciation in this case?

A. I had at first planned to make quite a study of it, but having found that 10.89 cents would simply cover and apparently more than cover the entire amount necessary each year, and being very busy with other features of the work, I did not carry it out. But it seems to me unnecessary in a way, in view of the fact there is so much evidence of the 10.89 as it is, covering the plant, so it is worth more to-day than it was twenty years ago by fully the amount spent for extension. I do not assume that is worth any more than the excess—any more than twenty years ago except for the nine and one half million: In other words, I give them the benefit of the 10.89, assuming that the increase in capitalization has been precisely what has been claimed in the book value, and the amount spent for extensions, and the testimony seems to indicate that if anything it may have been a little more.

Q. You were asked by Mr. Matthewson, he making certain assumptions, whether the land belonging to the company, if sold,—whether its price should be divided amongst stockholders or should go to extension. I wish you would clear up your ideas or your position on that point.

3555 Mr. MATTHEWSON: You are a little in error, Mr. Burr.

The MASTER: Does it need any clearing up, did not he answer the questions on cross-examination?

Mr. BURR: I will withdraw the question.

Q. You were also asked by Mr. Mathewson regarding your testimony in the Baltimore case. Do you desire to add anything in that connection or explain anything?

A. Yes, the Baltimore case was a——

The MASTER: To what particular point is this directed, please, as to the question of the basis of the value of that property?

Q. You were asked this question on page 3384: "And in that case did you not estimate the value of the property of the Baltimore Gas Company by taking the net earnings of the company and multiplying them by twenty, and state that to be a fair basis for reaching the valuation of the entire property? A. I think I did. That is Mr. Humphrey's basis in Holyoke.

Q. And you quite approve of that basis of taking the earnings of five per cent. and multiplying by twenty in order to get the value of the property? A. The company in Baltimore had no inalienable rights to continue to earn upon that, but as long as it was earning upon that basis, the city had the right to tax it on that basis."

Now, do you desire to explain your testimony in that connection or any other connection?

A. I merely desire to add that that it might not appear to be a contradiction, though at first it would seem to be that I considered that all values of *quasi* public corporations above the struct-

3556 ural value is subject to reduction at any time through reduction in rates or through taxation. Until that occurs, it has that value for purposes of either condemnation or sale, but it is a

value subject at any time to be taken away down to the value of its structural assets by either taxation or regulation of rates. But having taken that position, of course,——

The MASTER: That answers the question, does it not?

The WITNESS: I wanted to couple it with the other point of view, that there must always be conceded to the company if that is so the right to fully earn enough to keep its plant intact without depreciation in structural value and it is to be assumed that rates will not be cut if there have been no profits or dividends or anything of that kind. It is assumed that the company is an ordinarily prosperous company which should be entitled then to earn on its structural assets and keep them up.

Q. You were asked about the probability of the competition of electricity checking the growth in consumption of gas. Have you an-thing that you desire to add to your testimony in that regard?

A. There is a good deal of an opposite tendency in the fact that electricity accustoms the eye on the street and in the theatres and stores to brilliant lighting and the tendency is when one goes into a house where gas is used to turn up the gas and use more gas, so that it is by no means certain that electricity is injuring the gas business even for lighting in the long run and taking into account all phases of consumption.

Q. You believe that having light, we would exclaim with Goethe "More light."

A. Yes.

Q. Have you tabulated the data which you gave on gas stocks and bonds?

A. Yes, I have it here.

3557 Q. That is you have arranged it in a more convenient form for Mr. Mathewson's better understanding?

A. Yes.

Mr. BURR: I think you asked him if he would not do that, Mr. Mathewson?

Mr. MATHEWSON: I think he testified and answered all the questions I asked him. I do not think I asked him to make up a table of this kind.

Mr. KIRBY: You asked him if he had one and I think he said he would prepare one.

Mr. MATHEWSON: It may be. I do not remember what he said. Is it proposed to put this table in as evidence.

Mr. BURR: Yes, put it in here now.

Mr. MATHEWSON: I will have to object to it.

The MASTER: Can you point me to the place where the matter was under consideration before?

The WITNESS: It was just before recess one day and it was then taken up in the afternoon.

The MASTER: Page 3317?

Mr. KIRBY: Yes, that is what I have reference to.

Mr. MATHEWSON: I will not object to it if you desire to put it in.

Mr. BURR: Yes, that is the one. He said I hoped to present it in tabulated form. So we will put it in now in better form.

3558 TABLE 20.

Gas Stocks.

Quotations During 1906—January 1st–September 1st, and Dividends.

Company.	Quotation.	Dividends, per cent.	Return on investments, per cent.
Albany, Municipal Gas	255	10	4
Baltimore, Cons. Gas El. L. & P.			
Preferred	85	3	3 5/10
Common	37½		
Boston, Mass., Gas Co's.			
Preferred	88½	4	4 4/10
Common	57⅜		
Brooklyn Union	175–215	8½	4 3/10
Cambridge, Mass.	275	10	3 6/10
Charlestown, Mass.	252	10	4
Cincinnati, O., & Gas. El.	101⅞	4 5/10	4 5/10
Chicago, People's Gas Lt. & Coke	99–114	6	5 7/10
Detroit, City Gas	200	6	3
Hartford, Ct.	200	8	4
Kansas City, Mo.	45		
Louisville	139	6	4 3/10
Lowell, Mass.	248	10	4
Lynn, Mass.	325	10	3 1/10
Montreal	96	4	4 2/10
Nashville	123	6	5
New Bedford, Mass.	237	10	4 2/10
New Haven	200	8	4
N. Y. Con. Gas	175–214	8½	4 4/10
Phila. United Gas Improvement Co.	172¾	8	4 7/10
Providence	206	8	3 9/10
St. Louis Laclede.			
Preferred	95	5	5 3/10
3559 Common	95	5	5 2/10
Syracuse—Preferred	90	5	5 6/10
Common	60	2	3 3/10
Toronto—Consumers' Gas	205	8	3 9/10
Troy	165	8	4 9/10
Washington, D. C.	300	10	3 3/10

Gas Bonds, 1905.

Company.	Date of maturity.	Quotation.	Interest, per cent.	Return on investment, per cent.
Baltimore, Con. Gas	1939	110	5	4 5/10
Brooklyn Union	1945	112–118	5	4 4/10
Buffalo	1947	68–47	5	6 4/10
Chicago, Gas Lt. & Coke	.....	108–111	5	4 6/10
Chicago, People's	1943	123–127	6	5 2/10
	1947	106–109	5	4 7/10
Detroit, City	1923	100	5	5
Detroit, Gas	1918	105	5	4 9/10
Kansas City	1922	100	5	5
Milwaukee	1927	92	4	5 4/10
Minneapolis	1910–30	109	6	5 6/10
Montreal	1832	99	4½	4½
	1933	101	5	5
Newark, Gas	1944	131	6	4 6/10
Newark, Con. Gas	1948	107	5	4 7/10
Newton, Mass	.....	111	5	4 6/10
N. Y. & Richmond	1921	103	5	5
Paterson & Passaic	1949	105	5	4 9/10
Peoria	1923	100	5	5
Rochester, Municipal	1942	98	4½	4½
Rochester, Gas & El. 5s	1912	100	5	5
4½	1910–20	96	4½	4 7/10
St. Louis, Laclede	1919	102	5	5
3560 St. Paul	1918	114	6	5 3/10
	1915	110	6	5 5/10
	1944	100	5	5
Syracuse, Gas	1946	102	5	5
Lighting	1951	100	5	5
Troy	1923	113	6	5 3/10
	1939	112	5	4 4/10
United Gas & Elec. of New Jersey	1922	100	5	5
Washington, D. C	1927–9	103	4	4
	1923	110	6	5 5/10
Westchester Lighting Co	1950	112	5	4 4/10

Q. And by that statement it appears—what do you claim that statement shows?

A. It shows that the securities of gas companies net a return to the investor of less than six per cent. in almost every company of large size east of the Mississippi River.

The MASTER: That appears on the face of it I suppose.

The WITNESS: Yes, the last column brings out that fact.

Q. Now from the testimony in this case and your cross-examination have you corrected your figures in any respect as to the cost of gas in addition to the one cent in the beginning of your cross-

examination that you said should be allowed or possibly might be allowed?

A. I have not, save of course as I stated in the direct after the accountants and engineers are through, there may be some modification. With that exception I have not. That is not a change now, of course.

Q. And your conclusion as to the profits of the Consolidated Gas Company on the basis of 80 cents rema-ns the same, does it?

A. Yes. I did not give it in exactly that form, but their
3561 figure of operating cost of 58 cents, that is 57.92 cents, 58 cents, if you take my figure of 10.89 for contingencies and their figure—that is, there will be a difference between that and 80 cents of about 22 cents a thousand feet. Now, it is immaterial, as I have understood, all sides agree, from the standpoint of profits, whether lamps and miscellaneous receipts be taken out of expenses or be included in the receipts and expenses; the margin of 20 cents would remain. I do not understand that the 22 cents therefore, of margin, on an 80-cent price, would cover any disputed point except the difference of less than one cent on taxes and the question of whether 10.89 is large enough for contingencies and depreciation. I understand that the 22 cents eliminates all controversy on street lamps or rental of stoves or other miscellaneous income, so the margin is agreed to be there, whichever way you express it, as a bookkeeping expression. Now, 22 cents per thousand feet——

By Mr. MATHEWSON:

Q. Just a moment. That 22 cents does not eliminate the difference in taxes, which is something like one cent or a little less, nor the interest on consumers' deposits, does it?

A. I stated that it did not eliminate all of the difference on taxes, but it does eliminate part of it, because I understand some of the difference in taxes was stated to be due to taxes on outside investments. As to interest on consumers' deposits——

Q. .39 of one cent, and interest on taxes was a little over .7 of a cent or 1.1 cent for the two is not eliminated in the 22 cents, you differing with Messrs. Humphreys and Addicks, is not that right?

A. 1.1 cent?

Q. I think so for the two, I think that is right.

3562 A. What I desire is to get a difference that would not be disagreed to for the moment, without reference to my claim of lower costs. Then that would bring it up to about 59 cents. The difference between that and 80 cents would be 21 cents. The 21 cents would be six per cent. on $3.50 per thousand feet of capital or structural value, and that multiplied into the 13,300,000,000 of sales, or possibly multiplied into sales—that would include the sales to the city—I wondered whether that should not be added in this kind of a computation, but will leave it out for the moment——

Mr. BURR: Add it both ways, it if will simplify the understanding of the conclusion.

The WITNESS: I will take it without.

Mr. MATHEWSON: 13,300,000,000 feet includes the sales to the city and a little more, 13,280,000,000.

The WITNESS: 13,280,000,000 feet. $3.50 in that is, if I make it correctly, $46,540,500. That is, taking, if I understand it, all the contentions of the company with the exception of the 10.89 cents which they think is not large enough, but I think it takes in everything else. Now, this would allow six per cent. on $46,540,000. Now, the entire valuation in 1884 was about $31,000,000—I wish I had the exact figure, for the moment I haven't it, but it was perhaps at least $30,000,000—what was that exactly, the valuation at the time of consolidation of 1884 of all the companies.

Mr. MATHEWSON: It is about $30,190,000 structural value, exclusive of franchises of $7,781,000.

A. The $30,190,000 in November 1884 plus $9,693,565.90 of increase of structural value claimed since then, plus—this
3563 may be subject to slight correction—plus $1,000,000 for working capital, $616,470.08 for increase in supplies on hand would amount to $41,500,000. Now even if you add $2,000,000 more for money due the company from gas users——

By Mr. MATHEWSON:

Q. But that does not include the $1,000,000 of cash working capital?

A. I did include that, yes, excuse me.

Q. Did you?

A. Yes. Well, and $2,000,000 asserted by the company to be a necessary part of the working capital gives $43,500,000, leaving still a margin of $3,000,000 between that and the amount upon which the earnings would be six per cent. This, too, makes no account of the tendency of reducing prices to increase sales without a corresponding increase of expenses, and it includes no deductions for any questions of difference of price of oils or between the cost of production here and in the New Amsterdam, Standard and Central Union plants &c., and I do not mean in making this computation that I admit there should not be any allowance for all these things, I only am giving a computation to show how I understand the claims of the company—except on the 10.89,—would be covered by 80 cent gas.

By Mr. BURR:

Q. What do you conclude?

A. I conclude that the price of 80 cents without any increase of business would cover six per cent. on $46,500,000, while the entire valuation in 1884, plus all extensions written into the books since then, plus $1,000,000 for working capital, plus $2,000,000
3564 claimed also to be necessary working capital, because due company from consumers, plus $616,000 charged for supplies on hand, still amounts to $3,000,000 less than the $46,500,000. This takes all claims of the company for all expenses of every kind, shape and description, as I understand them, with the exception that it only concedes 10.89 to cover repairs, renewals and depreciation and

I do not hold that it is necessary with the 10.89 for the reasons I have already so often spoken of.

Q. That is against the claim made by the witnesses for the Consolidated?

A. Yes. And I asserted a moment ago that I did not, in making this computation, concede that all the claims of the company covering operating expenses were to be accepted in this case, or even if they were, during last year, that they would necessarily be taken as true on the average.

By Mr. MATHEWSON:

Q. No, they might be larger next year?

A. They might be. The assumption is that this litigation will some time end. I should add that the company's claim of an amount additional to the 10.89 cents if conceded and amounting, perhaps I have forgotten now, to five cents possibly, or possibly eight cents or nine cents, but anyway whatever it be, would be met on the other hand not only by this $3,000,000 margin I have referred to, but by the certainty that reductions in price will increase sales without a proportionate increase in operating expenses.

By Mr. BURR:

Q. Your attention has been called here towards the close of your examination to some statement made by Mr. De Ford who is
3565 claimed to have been an associate of Mr. Shearn's in the prosecution of the complaint before the Gas Commission. Do you know anything about this statement that has been referred to, as appears in the minutes of the hearing before the Senate Finance Committee at the Capitol?

The MASTER: That was excluded, wasn't it, Mr. Burr?

Mr. BURR: In case it should be allowed in, I want to get his explanation of it. That is one of the difficulties.

A. I have been unable as yet to get at the copy of his speech to know what it was further that he said, that is, aside from what was quoted, and I have not met him or heard from him, and therefore I cannot say anything about it.

Q. Whatever his statement was, it had no bearing upon your testimony in this case?

A. Why, no.

Q. And whatever his statement was on that occasion it has no bearing certainly upon the testimony you gave before the Gas Commission?

A. Certainly not.

Mr. BURR: Now, I move to strike out the statement purporting to have been made by Mr. De Ford, read by Mr. Mathewson from what purports to be minutes of the hearing before the Senate Finance Committee at the Capitol at Albany on February 16th, 1906, and which is printed on pages 3421-3-4 of the testimony in this case.

Mr. MATHEWSON: You have your exception to the admission, haven't you?

The MASTER: That is all I can do.

Mr. BURR: Is the motion to strike out denied?

3566 The MASTER: No, it is granted, but it seems sort of inoperative, since according to my ruling the testimony was excluded. I cannot strike it out physically.

Mr. MATHEWSON: I take an exception if it is granted.

Mr. BURR: That is all I have to ask Professor Bemis.

At 4.45 P. M. adjourned to October 30th, 1906, at 10.30 A. M.

Last Exhibits:
Complainant's, 256.
State's, W.
City's, 61.

3567 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, TUESDAY, *October* 30, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Kirby.

3568 EDWARD W. BEMIS resumes the stand.

Direct-examination continued by Mr. BURR:

Q. Have you any corrections to make in the testimony given by you yesterday?

A. I have not yet had time to read over the testimony, except the last three or four pages, which I read first, and there may be some corrections in the printed copy which will have to be made later; but, so far as I recall the testimony as I gave it, I think there are possibly two corrections.

I testified on some previous day last week that I thought the candle-power of the gas furnished by the New England Gas & Coke Company to Boston had to be enriched before it came up to the 19.37 candle-power used in Boston, but I have since discovered that when my memory was fresh upon the subject I testified in Boston that it was enriched before it was delivered to Boston, and came into Boston at the candle-power of from 18 to somewhat over 19. And I have no later information than what I gave in the Boston testimony a year and a half ago.

The second correction: I think I stated that the total profits obtained by the Consolidated Gas Company during the first five years

were about twice as great as during the five years ending in 1895, when gas was 25 cents higher. That statement I do not change, but I should have explained the figures I used. I took and intended to state—perhaps I did state—that the figures I used for the period of 1891 to 1895, inclusive, were dividends paid out, as that was the only data I had. For the last five years I didn't use the dividends because the evidence showed that the dividends were more than the earnings on the gas alone. If I had taken the dividends there would have been an increase of two and a half fold instead of two-
3569 fold. I took the net earnings reported by Mr. Teal and appearing as an exhibit in the State Gas Commission case copied from the Stevens Report for 1901 to 1904, inclusive, and for the last year which has closed I computed the earnings from Mr. Addicks' testimony, taking his figures and allowing the full ten cents for contingents which he allowed, and I merely would say now that those figures, in order that there may be no mistake about them, I gave to a typewriter this morning in the form of three or four columns, giving each year, and she was late in arriving at the office, and therefore had not quite finished copying it when I started, and when it arrives I would simply like to hand it to the stenographer and Mr. Mathewson, as part of the testimony yesterday or to-day, being merely an explanation of my statement, not any new evidence. That is all I think of now.

Q. And have you tabulated the value of the plant as appears by Yalden's report?

A. Yes. The cost of the plant as appears by his report I have, and I find that he appears to have valued the land, the cost of the land taken into the company in 1884, as $4,251,810.94, which went into the consolidation at $10,332,000. Some of that land has since been sold, I understand from the evidence. I don't know where it is now, but some of it has been sold.

Q. Have you made a concise tabulation of the value of the property as appears by his report which would save the Master, if Mr. Mathewson does not find fault with your tabulation, the trouble of wading through those figures and that report of Yalden's to ascertain?

A. I have it, but I haven't had time to have it copied. It is right here.

Mr. BURR: I will ask leave to submit that later. It will aid the Master.

Mr. MATHEWSON: I don't believe it will, for I don't be-
3570 lieve the Master will find it material at all to wade through that.

Mr. BURR: I say if it is material it will aid him in arriving at the proper figures.

Mr. MATHEWSON: Well, I would like to see what it is.

The WITNESS: The other statement was merely put in two columns, the Yalden statement of cost as he reported it at that time and the figures taken in the consolidation of 1884.

Recross-examination by Mr. MATHEWSON:

I ought to say to the Master and counsel that I have not yet yesterday's testimony except as Mr. Kirby handed me a copy a moment ago. I have not been able to go over Professor Bemis' redirect-examination, and I find in going over my notes for recross-examination that it may be absolutely necessary for me to have a further interval, in view of the new matter he presented, before I complete his cross-examination. I will do as well as I can this morning, as I am anxious to conclude as soon as possible. I understood that I could have some time if it was essential, but I prefer to conclude as far as I can.

Q. Professor, you were shown an exhibit referred to at page 3130 of the testimony, Exhibit 171 before the Gas Commission, showing the cost to the Consolidated Gas Company of the gas manufactured by itself as compared with the cost to the Consolidated Gas Company of the gas manufactured for it by other companies for the four months, July 1st to October 31st, 1905.

A. I have the exhibit before me, yes.

3571 Q. And as the Central Union contribution, 34.35 cents, represented 10 per cent. above cost of labor and material you divided that by 1.1 and found that the balance, 31.33, would represent the cost of labor and material to the Central Union?

A. Yes.

Mr. BURR: As compared to the cost of water gas to the Consolidated Gas Company.

Q. And I then asked you to compare that to the cost of the water gas of the Consolidated Gas Company and it showed a little difference?

A. 31.23, is it not?

Q. Well, whatever it is.

A. I think there was a mistake of .1; 31.23 it is.

Q. Now yesterday you assumed to compare this 31.23 with cost to the Consolidated Gas Company for those four months at the holder, which was 35.6, and stated that it showed a difference of something like this?

A. Yes.

Q. You know, do you not, that that table was made up to show the difference in cost between the gas manufactured by the Consolidated Gas Company itself and the cost to the Consolidated Gas Company of gas which was produced for it under its agreements?

A. Yes.

Q. And that that is not a comparison of station costs at all. You understand that, don't you?

A. This is not a comparison of station costs.

Mr. BURR: Which one do you mean?

The WITNESS: I mean that Exhibit 171, as relates to the companies from which the Consolidated Gas Company buys the gas, is station cost plus 10 per cent., while for the Consolidated it is station cost.

Q. You are entirely mistaken about that. Don't you know that labor and material does not make the entire station cost of gas?

A. Yes, that is right.

3572 Q. Then 31.23 cents would not represent the station cost of the Central Union Gas, would it?

A. I now recall there is a small difference there.

Q. Well, whatever the difference is, there is a difference?

A. That is right.

Q. And whatever the difference is could only be determined exactly by going into the figures of the Central Union station cost?

A. Yes. They are given, I think, on an exhibit which I put in as regards at least the coal gas. I don't know whether they are as regards the water gas or not in any exhibit.

Q. And if you read the testimony before the Stevens' Commission you found that the Consolidated Gas Company, in making up their station costs, had an item known as gas production, which included merely labor and material to which they added repairs and other things amounting to several cents, as I remember it, to make up their station costs, don't you?

A. I don't recall that, but I do recall that in Exhibit 93 and Exhibit 94 there is given the cost of labor and material that you speak of, and then there is added the distribution expense for—holder costs, I understand them to be largely, to make up the final figure given in those two exhibits.

Q. In other words, take Exhibit 94, and the net amount of material and labor in gas made is stated to be 29.1 cents, is it not?

A. I don't recall now.

(Paper handed witness.)

The WITNESS: Yes, net amount of labor and material, 29.1 cents.

Q. Whereas the station cost of the gas manufactured by the Consolidated Gas Company excluding the gas purchased under agency agreement, is stated to be 32.42 cents, is it not?

A. Yes.

Q. Or a difference of how much?

A. 3.32 cents.

Q. Then if you take this 3.32 cents and assume *Q. Then*

3573 *if you take this 3.32 cents and assume* that to be a fair average, that would pretty nearly dispose of the difference, would it not, between your 31.23 cents, which was the cost of the labor and material to the Central Union, and the 35 cents which is stated in Exhibit 171 before the Gas Commission to be the station cost of the Consolidated Gas Company?

A. For those four months. It does not affect the comparison of coal gas plants for the previous year.

Q. That is another proposition entirely. I am speaking of your comparison of this table.

A. Yes. I never had the full details.

Q. But that difference would dispose of pretty nearly all the difference which you found in your comparison on the basis of Exhibit 171 before the Gas Commission, would it not?

A. As relates to those four months, without the details, which I have not for the other year.

Q. I say it would, assuming that the difference between labor and material and station cost of the gas of the Consolidated Gas Com-

pany referred to in Exhibit 171 was as great as the difference between the cost of labor and the material and the station cost of the Consolidated Gas Company gas as shown on Exhibit 94.

A. Well, it makes several assumptions. I think that probably is one, without going into it very much, because I have not the time, but it makes several assumptions. It assumes, for example, that the cost given here for the gas made by the Consolidated Gas Company of 35.6 cents during those four months was only labor and material. That is not stated in the exhibit at all, that that is only the labor and material, but, assuming that it is, there would have to be another assumption added.

Q. No; let us see if you are not wrong about that. As-
3574 sume the 35.6 cents represents not labor and material only, but represents the station cost, to wit, labor and material plus these other items making up station cost.

A. But what it does assume is not stated there. I say you have to assume one or the other.

Q. You assumed, when you made your computation that that represented station cost, did you not, yesterday?

A. Yes.

Q. Let us continue that assumption?

A. And I assume that as to both, but now I say I don't know, because I find there is no data on that.

Q. You did testify, did you not, that you understood that the Central Union 34.35 cents, under the terms of the agency agreement to which you referred, represented the cost of labor and material plus ten per cent. thereon?

A. Yes.

Q. And then you figured that if that were true, the cost of labor and material alone would be 34.35 cents divided by 1.1 cents, which made 31.23 cents as the cost of labor and material at the Central Union?

A. Yes.

Q. Now, if 35.6 cents is station cost for the Consolidated Gas Company, that includes items in addition to labor and material, which on the basis of Exhibit 94, would amount to 3.32 cents, does it not?

A. I don't know what it includes. I say, if you assume that, you get the result just brought out.

Q. Won't you assume it as you did assume it yesterday, and assuming your assumption yesterday to be correct——

A. I assumed yesterday that it was a comparison on the same basis. If it is not so, why, so far as my testimony on that particular exhibit is concerned, of course, the point falls.

Q. Did you not examine the record before you made this computation and made this statement, to know what this Exhibit 171 did represent?

A. No, I took it very hastily. It was something you had
3575 referred to in the cross-examination, and I just looked at it for a few moments to notice those figures.

Q. Is it not fair to assume that that is the station cost, from the heading of that exhibit?

A. It says here nothing about it directly. It says Consolidated Gas Company make cost 35.6 cents.

Q. And when you assumed that to be the station cost, didn't you?

A. Yes, I did.

Q. Well, that is quite right.

A. But I say now I don't know.

Q. Then, if that is the station cost, in order to get the cost of material and labor alone, you would have to deduct the difference between the cost of material and labor and the 35.6 cents, would you not?

A. Yes, on that assumption.

Q. And the difference between the cost of labor and material and the station cost appears in Exhibit 94 to be 3.32 cents, does it not?

A. Yes.

Q. And assuming that that factor were to be a fair one to take, then deducting that from 35.6 cents it would not leave very much difference between the cost of labor and material to the Consolidated Gas Company and to the Central Union, would it?

A. No.

Q. Well, exactly——

A. But with the exception of that one exhibit, brought out on cross-examination, my main comparison was with the coal gas plant only.

Q. That is another proposition which we will take up later, and we will show that it is as exactly unfounded. We will take them one at a time, Professor. Now you spoke about London and stated that the difference between the prescribed candle power and the candle power actually furnished in London you found to be for the principal company, I think, .6 candle power, a little over a half a candle power. Do you know where the gas is examined in
3576 London?

A. No.

Q. Do you know how far from the works it is examined?

A. No.

Q. Do you know how often it is examined?

A. No.

Q. Do you know what the penalty is for violations by falling below the candle power required?

A. No. All that data has been collected this summer, but I have not looked it over.

Q. Do you know whether the requirement of the law in London is that each station of each company shall be examined or whether one examination per day is all that can be had?

A. All that has been looked up, but I have not had time to look into it myself.

Q. Do you know what the penalty is over there which could induce the keeping of a candle power safely above the required candle power?

A. I understood the inspections were very honest in London.

Q. Do you know what the penalty is? That does not quite answer my question.

A. No, I do not.

Q. If there was a penalty, for instance, of only 40 shillings in case of a defect of half a candle power, it would not be so essential to keep the candle power safely above the rate fixed by law as though the penalty were a thousand dollars, would it?

A. No, although I was taking the actual candle power. I think the actual candle power is above the requirements.

Mr. BURR: And the testimony is that even before the passage of this law there was an increased candle power, before there was any penalty fixed whatsoever, just the same as it has continued to be since the penalty was fixed.

3577 Mr. MATHEWSON: That is almost a matter of argument.

Mr. BURR: Well, I object to the question as being incompetent, irrelevant and immaterial on that ground.

Q. When you said that the candle power was .6 of a candle above the requirement of the law in London, did you mean that it never fell below the required candle power or that that was merely an average?

A. I took simply what is given in Field's Analysis, and even at the moment I don't remember whether it was just .6 or .5. I haven't it before me.

Q. Do you remember whether it was an average or not?

Mr. BURR: I meant to have read the table with regard to these companies from Field's Analysis, showing the prescribed rate and actual rate of candle power, as the Professor alluded to it yesterday.

Q. Do you know whether that was an average candle power or not?

A. No, I suppose it is so, but I suppose that the tests show that it did not fall below the requirements.

Q. You have previously said, and it is otherwise in evidence, that the candle power of the largest London company is 14 candles. Don't you know that when you have to maintain a candle power of only 14, and with coal gas without the necessity for oil enrichment, that it is very much easier to maintain your candle power close to the average required by law than it is when you are obliged to maintain a 22 candle power by means of oil enrichment to a large degree?

A. It is easier probably to maintain 14 than 22, and yet I know that in Philadelphia the candle power does not vary half a

3578 candle between the works and the home of Mr. Walton Clark, as he has often told me. He lives seven or eight miles away.

Q. That is what Mr. Walton Clark has told you, is it?

A. Yes.

Mr. BURR: Who is Walton Clark?

The WITNESS: The Vice President and Manager of the U. G. I.

Mr. MATHEWSON: I do not think that testimony is very valuable. I move to strike it out.

The MASTER: Strike it out.

Mr. BURR: Exception.

The WITNESS: That is 22 candle power there. I am under the impression that——

Q. Have you ever taken or made any tests in Philadelphia yourself for candle power?

A. I went to the testing station furnished by the U. G. I. and also the testing station at Mr. Clark's home.

Q. Have you ever made any tests in Philadelphia as to candle power?

A. No. I want to correct the assumption that it is 14 in London. While I have not read the law in regard to that, Field's Analysis, my impression is, gives it as 16.

Q. It is 14 for two and 16 for the third, is it not?

A. It is 16 for one of them.

Q. And 14 or 16 candle power you can deliver without any enrichment by the fine quality of coal you get in London, can't you?

A. I think they enrich a little.

Q. Well, practically no enrichment for 14 candle power?

A. No, not for 14.

Q. Now about the effect of severe temperature and changes of temperature such as we have in New York, is not that a very serious matter when you come to candle power, in maintaining candle power to provide for fluctuations?

3579 A. It affects it.

Q. And is not the temperature in London more even and a higher temperature on the average than it is in New York, if you know, in the winter?

A. You ask if it is colder where?

Q. If it is not more even and a higher temperature in London in the winter than it is in New York?

A. I believe it is higher in London; I don't know positively.

Q. Well, that is your impression, is it not?

A. Yes.

Q. Now, you spoke about 755 tests that you produced here with reference to the Consolidated Gas Company, did you not?

A. There were supposedly 755, substantially 755; it may have varied four or five. I think there was one station that on four or five days was not tested. There were 151 days in which there were tests, and there were five stations; that would make 755 tests, but I think one station on four or five days was not tested, so there were about 750 tests really.

Q. And you said about thirty fell below 22½ candles, if I am correct; is that right?

A. Whatever I stated I had at the time, but I have not my notes before me. What page, please?

Q. I don't know.

Mr. KIRBY: Page 3483.

(Question repeated.)

The WITNESS: That is what is here, yes.

Q. And when you take 22½ candles, was that the average, or what was that figure?

A. No, that was in each case. There were thirty-two separate cases.

Q. Well, you spoke about an average of 22 or 22½ candles, did you not, as having been furnished by the company?

3580 A. I spoke of that for a certain period.

Q. What was the period?

A. I think that was for the year ending October 31st, 1905.

Q. Now, how many times did you find that the tests fell below the 22 candle power required by law?

A. In that period or in this period?

Q. Yes.

A. I don't remember; I did not count them up.

Q. You found that they fell below 22 candles in some cases?

A. Well it was only 20 candles prior to July 1st, as required by law.

Q. I understand, and your average is made up of a part of the period while 22 candles was required?

A. Well, this relates to the last half of 1905, under the new law?

Q. Then it is?

A. Yes.

Q. That is your testimony as to the 755 tests?

A. Yes.

Q. Now, didn't you find that in some cases, even with that average, the candle power fell below 22 candles during that period?

A. I had the data before me yesterday.

Q. Well, what is your recollection?

A. I don't recall. I think, as I recollect; I think I remember one case. I don't think I remember—it was either one test or one day, I have forgotten.

Mr. BURR: You had better refer to your notes.

The WITNESS: If I have them. I am not sure whether I brought them back. When I testified yesterday I did not have those notes; they were used in making up my original testimony.

Q. You cannot tell how many, then, from your data fell below 22 candles since July 1st last, can you?

A. I thought my testimony went into that pretty fully,

3581 and yet what is not in the testimony on the point I am not able, I think, at the present moment to supply.

Q. If you can point it out to me in your testimony, where you have answered that question, I will relieve you. I did not recall any such testimony.

A. On the pages which are open there, there was some statement, I thought, about it. I stated here, I notice on page 3483, that there were only five days in which the average of the tests of the five stations fell below 23, and only one day in which it fell below 22.6.

Q. Yes, but you understand that the penalty does not have any relation to averages; it provides that if a single examination discloses a fall below 22 candle power that we must suffer the penalty, and we have five stations and each station is tested. Now, I would like to know whether the tests did not show that, even with the

average which you have testified to, in some cases the candle power fell below the 22 candles required by law?

A. I am sorry I have not with me my tests for each day and each station, so that I cannot answer the question. But my present recollection is that there may have been one station one day. I don't remember now. I think there was.

Q. Well, you do understand that the law does not impose a penalty for an average but for a single offense, don't you, upon any test?

A. Yes. I do understand, though, that taking it month after month it was away above at every station, and then there would be——

Q. (Question repeated.)

A. Yes, that is, it has been so read.

Q. Now you have referred to the Philadelphia works. Are you not familiar with a paper just read by Chief Engineer Gartley
3582 of the Philadelphia works before the American Gas Institute in which he stated that in winter, when the thermometer drops, he has to allow for a drop of four candles at least between the works and the testing stations?

A. I have not read the paper, but during these winter months, as well as in the summer, these stations were away above. It was only, I think, in September and October when I saw much tendency to drop in the tests.

Q. In other words, during the winter months, when the effect of cold would be felt, a margin was provided above the legal candle-power a little higher than it was in the warmer months, is not that right?

A. There was a big margin in the summer as well as in the winter months in every station and every test, and I think in September and October, or else in October and November, there were some stations that came very near the line, and in one or two cases fell below it.

Q. You have stated in the last six months of 1904 the average candle power was 21.08 candles, as I understand you?

A. Yes.

Mr. BURR: That is when the law required 20.

Q. And that the excess in 1905 jumped to 2.18 candles. Have you not got that turned about?

A. Why, I do not see in what way I have. What I meant to say was, and I think it is the same here, that the average candle power the last six months of 1905 was 24.18, and the last half of 1904 it was 21.08.

Q. Then your statement is as you desire it. Now, don't you know that in 1904, the period which you compare, the law provided for a test only once in three weeks, and provided for a penalty only if three consecutive weekly tests showed below 22 candle power?

A. No, I don't know the law at all.

Q. You did not know that that was the law?

3583 A. I found tests every week and supposed they were according to law.

Q. And you did not know that the law then was that the company

could only be penalized for three consecutive weekly tests falling below 20 candles?

A. No.

Q. They would not be penalized if one week showed 17 candles and another week 15 candles and the next week 21 candles? You did not know that?

A. No, my attention was never called to that.

Q. And did you know, too, that the penalty was only $100 in case of three consecutive failures?

A. No. That law has not appeared in evidence, I do not believe.

Q. That would furnish an explanation for running so near on an average to the candle power required by law in 1904?

A. It would have a bearing on the case, certainly, but I think an analysis of the candle powers during 1905 for each day, which I might have brought with me if I supposed it would be required, would show for every station a large excess for most of the six months, barring out about two or three months.

Q. Let us take up this 34 degree gravity oil which you say was mostly used in Boston for the year ending July 31st, 1906. Have you got any data except the letter from Mr. Richards or the letters which you have quoted for the statement that it was mostly 34 degree gravity oil in Boston?

A. It is an interpretation of two statements, one that it is practically all, and the other substantially less than 34.

Q. And don't you know that oil of 28 degree Beaumé and of 34 degree Beaumé may differ very materially so far as the value in the production of gas goes?

A. Whether it is a straight oil or a mixed oil, you mean?

Q. Any way you please to put it.

A. I have no reason to know that it means anything dif-
3584 ferent in Boston than it does in New York. It is furnished by the same company.

Q. And you have no reason to know that it does not? Don't you know that the same company can furnish two oils of 28 degree, one of which is more expensive than the other and substantially more valuable in gas making?

A. I examined the contracts and those contracts say—I have seen the contracts of the Consolidated Gas Company——

Q. That is not the question——

A. But I have not seen any reference to any differences that you now speak of.

Q. Don't you know that some 25 degree oil Beaumé test is as good for gas making as other 28 degree oil Beaumé test, having reference simply to the test?

A. I am not sufficiently familiar to say about that.

Q. Now you stated that the New Amsterdam and Standard had used only 28 degree oil because you found that the cost of oil to them was only a little over 4 cents, and that they maintained their candle power every month, the same candle power required by the new law. Do you mean that they maintained that candle power on the average every month, or that every inspection showed the required candle power?

A. I don't remember just how I put it in my testmiony.

Q. I don't care how you put it in your testimony. I am asking you what you mean.

A. I think I meant that every test showed it; in fact I feel quite positive that that was my meaning. There was no occasion for averaging stations, because there was but one testing station for the New Amsterdam.

Q. I understand——

A. So I cannot see how I could have made any mistake on that.

Q. But you said they maintained every month the candle power required by law. Now, did you mean that the average was
3585 above the candle power required by law or that the tests showed above the candle power required by law in the case of those two companies?

Mr. BURR: His exact language was: "It is also to be noticed that, using that quality of oil, these two companies were able to maintain the average candle power every month, with the exception of one month in the case of the New Amsterdam, sufficient to comply with the new law as to candle power.

Q. Now, you have just said you thought it applied to the new test. Which is the fact?

A. I am not sure now, because when I prepared my testimony I had before me the tests, but I did not bring them down this morning, and do not remember just what I had before me then.

Q. Now, if you have read the evidence, you know, do you not, that the New Amsterdam and Standard received oil under the contract made by the Consolidated Gas Company?

A. Yes.

Q. For joint benefit?

A. I understood so.

Q. And, accordingly, the quality of the oil they received is the same as the Consolidated Gas Company's?

A. Yes. The average candle power of the New Amsterdam and Standard, which I stated as a certain amount, compared with a lower amount for the Consolidated Gas Company, was made up on the same basis. I did not take one basis for one company and another basis for another, I am sure. I think what I took in each case was the average for the month, and then added them together and divided by twelve for the year.

Q. Have you been in Massachusetts since the last session last week?

A. No.

Q. Have you examined any of the reports of the Massa-
3586 chusetts companies since?

A. Since last week?

Q. Yes.

A. None that I did not have with me at the time last week.

Q. You have access to those, I judge, in the office of the Commission, have you?

A. Some weeks ago I had some of them copied for me.

Q. By order of the Commission?

A. Yes, by the consent of the Commission.

Q. Now, you have spoken about oil in Lowell and Fall River. Do you know what the average paid for oil in Lowell is?

Mr. BURR: He says, on page 3496, 3.13 cents is the average price of oil.

The WITNESS: The return to the Commission is as follows for the year ending June 30, 1906——

Mr. BURR: What are you reading from?

The WITNESS: The return of the Lowell Gaslight Company to the Gas and Electric Light Commission for the year ending June 30, 1906. Their return is that they used 60,009 gallons of naphtha at 5.3 cents and 833,033 gallons of other oil at 3.13 cents. And then I wrote a letter to Mr. Pease, asking him with regard to the Beaume test, and he replied that——

The MASTER: You stated that yesterday on page 3490.

The WITNESS: As I stated yesterday.

Q. So that it is a fact, is it not, that 6/14 of the oil which Lowell uses costs them, not 3.13 cents, which you stated as the average, but 5.3 cents, Professor?

A. 6/14?

Q. Yes, about 6/14?

3587 A. I think not; 60,009 gallons of one kind and 833,033 of the other, or 893,042 gallons in all, of which 60,000 gallons is less than 7 per cent.

Q. Less than 7 per cent.?

A. Yes, that is right. 1/14. You said 6/14, as I understood.

Q. Yes, that is what I said, and you find it is 1/14?

A. Yes, it is less than that; it is less than seven per cent. It is six and a fraction.

Q. That is according to the report?

A. Yes.

Q. That would make an average higher than the 3.13 cents which you gave yesterday?

A. Yes, but I am talking about the 29 degree gravity oil.

Q. And that was 3.13 cents, was it not?

A. Yes.

Q. But you were comparing that with the oil used by the Consolidated Gas Company and saying there was more than a cent difference?

A. Yes, there is.

Q. The Consolidated Gas Company has to use 34 degree oil, does it not?

A. I was comparing Exhibit 93, where they used 92.6 per cent., as near as I can compute it of 28 degree gravity oil, and at that time paid 4.04 cents. Now, Lowell paid 3.13 cents for one degree higher gravity, for 29 degree gravity.

Q. But you have no information about that oil except merely that the test was 29 Beaume, have you, whether it was a good gas oil or poor gas oil of that grade, have you?

A. While I have no absolute information, gas companies like that

who have been buying oil for years are supposed to know what what good gas oil is.

Q. Yes, and they might get good gas oil and pay more money for it than that, might they not, or consider that it was better to buy cheaper oil and pay less money for it?

Mr. BURR: Objected to as being purely speculative.

The MASTER: He may answer it.

Mr. BURR: Exception.

3588 A. I could work out an answer of some value, but I could not give it offhand. I should need to take their amount of water gas made and the information that Mr. Pease gave as to the candle power and divide the gas into the number of gallons of oil used and see how the consumption of oil compared with other companies, to know whether they were using an amount of oil larger than could be expected or not.

Q. Do you know what North Adams pays for oil?

A. No, I do not.

Q. Is it not more than 4 cents?

A. It is possible. I only secured——

Q. Have you no recollection that it is? You have examined all these companies, have you not, or their reports?

A. No, the seven largest companies outside of Boston are all that I sent for.

Q. Well, don't you know that Worcester pays more than 4 cents? That is one of the largest.

A. I will tell you in a moment about Worcester. Worcester, I know, is not as well situated as Boston because it has no water competition. A curious fact developed at Worcester; I believe it is the only one of the seven companies that the copyist used a blank for a previous year which did not have that page in it; and I sent again to get that page, and the reply I received was that the Worcester company did not appear to have made any return as to the price they paid for their different qualities of oil.

Q. Well, is it not your information that Worcester pays as high as 5 cents for some of its oil and more than 4 cents for the rest?

A. I worked out this scheme. I found out what the total oil was and divided it into the total return of the price paid for oil without knowing the quality of oil at all, and it averaged 4.42 cents. But Worcester is an interior city, away from the seabo-rd.

3589 Q. How about Lawrence? Does not Lawrence pay considerably more than 4 cents for its oil?

A. Lawrence pays 4.53, but I have no information, although I tried to get it, as to the gravity of their oil.

Q. Don't you know that New Bedford pays more than 4 cents, and that is on the seaboard, is it not, and subject to water competition?

A. I don't recall. I saw in Brown's Directory that Pawtucket only pays 3 cents, I think.

Q. I am asking you about New Bedford.

A. I did not get any data on that. It was not among the largest cities, and I did not write for it.

Q. I have direct information, I think, that Lowell pays more than 4 cents on the average for its oil. Are you sure about your figures?

A. Well, I have this copy here; that is as far as I probably could go at the present time. I have not had the opportunity which I have been hoping to get; I have not had the time to compare the copy with the original in the office of the Gas Commission, but I have had reason to believe that it was correct.

By Mr. BURR:

Q. Let me ask you, did you write the Lowell Gas Company with regard to what appeared to be the average price paid by them?

A. I asked them for the gravity of their oil. I found that the return showed that, including a little less than 7 per cent. of naphtha, they used 896,042 gallons of oil and that the cost of it——

By Mr. MATHEWSON:

Q. That is assuming that the amount of naphtha that they used is accurately stated in your report, is it not?

A. Yes, and that the price, $29,442.52, as given on page 6 of the return, or 3.3 cents, a little less than 3.3 cents on the average.

3590 Q. That is more than the 3.13 cents you gave yesterday?

A. No, I gave that for 29 degree Beaumé. When you add in the naphtha, the average obtained by dividing the oil, 893,042 gallons into the price of $29,442.52 makes the average per gallon not quite 3.3 cents.

Q. That is assuming that your copy is an accurate copy of the report, and assuming that the report states the details accurately?

A. Yes, of course.

Q. Now, you have referred to the Astoria plant again, and the cost there. Don't you know that the Consolidated Gas Company has had a great deal of difficulty in selling the coke at the price at which it has obtained, even to the extent of that produced at 14th and 42d Streets?

A. I thought the contrary.

Q. You thought the people were crying for coke?

A. They raised the price six months ago, which appeared to me to indicate that times were booming.

Q. No, they are not. We have great difficulty, you found the testimony to be before the Gas Commission to sell the coke at the prices at which we were able to sell it.

A. I thought it was all negatived by the fact that you raised the price.

Q. You don't think we would get all we could for it if it took a little work?

A. I think if you could not sell it, you would reduce the price instead of raising it.

Q. I said we had difficulty in selling it, that was my proposition.

A. I don't understand the meaning of the word in that sense.

Q. You don't understand the meaning of difficult?

A. There is difficulty in all life and business.

Q. Don't you understand from the testimony that we had difficulty in disposing of our coke at the price we obtained for it?

A. No difficulty, not in the sense you would have me understand the term.

Q. Very good. What would be the effect on the coke mar-
3591 ket of a vast production of coke at Astoria, much beyond what we now produce in New York, do you think?

A. The success of the New England Gas & Coke Company in marketing its enormous supply of coke would lead me to think that it could be met, but I don't know absolutely and cannot prophesy as to the future.

Q. And you do know, don't you, that taking into consideration the longer haulage of the coke at Astoria, and the fact that there is nothing in the immediate vicinity that uses or needs coke, would add to the expense or delivering or selling coke?

A. I don't know that it would. As long as you are on the water front and can go to any docking place on the island with it, I don't know that the expense of delivering to consumers would be much greater than by carts.

Q. If you sell coke to some concern in New York, you think that it is just as cheap to put it on a lighter in Astoria, to transfer it across the river, to unload it at the dock in New York, and then have it hauled from the dock to the consumer who uses it, as it is to have the consumer take the coke direct from the plant on Manhattan Island without lightering it at all, do you?

A. No, not if the consumer on Manhattan Island happens to live comparatively near the coke producing plant, which is only at 14th Street or 42d Street. But those are the only two points on the whole island. Now, a consumer living at a distance from those points might find the cartage no more expensive from the nearest dock to his home or business, and by lighterage from Astoria to that dock, than by cartage from 14th Street or 42d Street several miles farther by cart.

Q. Is it not the rehandling of coke which injures its value rather than the distance which you have to transfer it in a single
3592 conveyance, once it is in that conveyance?

A. Both factors enter.

Q. Does not that enter very largely in the case of a brittle substance like coke is liable to injury by rehandling?

A. Rehandling injures coke more than many other substances.

Q. Now, the Central Union case, to which reference has been made, I desire to read from page 147——

A. I understand, if I am at liberty—I must assume that the Astoria plant will be so situated that the coke will be delivered on lighters with far less trouble than it is now delivered at 14th and 42d Streets into carts in many cases, because it will have a thoroughly up-to-date coke handling device doubtless.

Mr. Burr: And there is no evidence on this record as to what the condition will be as to delivering coke at the time the Astoria plant commences to deliver it and have it for sale. It is dealing with the future.

Q. But once the coke is delivered into the carts of the carting company at the plant, or into the cart of the consumer, there is no handling necessary until it reaches the consumer and is dumped into his bin, is there, where the plants are located on Manhattan Island?

A. But to get it into a lighter from 14th or 42d Street, is harder. I understand they are separated by streets from that water-front.

Q. Do you think you would necessarily have to get it into a lighter from 14th or 42d Streets?

A. You asked me that question.

Q. No, I did not ask you anything of the sort.

A. I thought you said lighter or carts.

Q. Let us see if we cannot get this cleared up. Where the consumers of the coke are on Manhattan Island and the plants
3593 of the company are located on Manhattan Island, the coke can then be placed into the conveyance which delivers it without transfer from the company's plant to the consumers' premises. That is clear, is it not?

A. Yes.

Q. Is not that a great advantage as compared with transferring into a lighter and lightering it across the river and re-transferring it from that lighter to the cart which takes it to the consumer.

Mr. BURR: That is assuming conditions which do not exist.

Mr. MATHEWSON: Will you not let me cross-examine the witness?

Mr. BURR: But you asked the question and the same conditions would prevail when they got to Astoria. They could put the carts on the lighter or on the boat which they use now, so there would be only one vehicle, and have it transferred from Astoria to the consumer in Manhattan, as there would be one vehicle from the plant or station in Manhattan to the consumer.

The MASTER: You can argue that at some other time. Get the facts now, if you please.

The WITNESS: I would say, as far as the handling is concerned, it would appear as if there would be less injury to the coke from a direct cartage from the plant to the consumer, but there might be much larger cost of cartage, which would offset any difference in the condition of the coke at the end of the cartage and many consumers of coke might not find the coke any worse for their purposes in one case than in the other.

Q. But coke which is not screenings, or coke which is uninjured, is more valuable in the market than screenings or injured coke, is it not?

A. Yes.

3594 Q. Now, I will read from page 147 of the Central Union case, Mr. Doane's testimony:

"Do you know whether you have customers to whom you have to transport the coke or whether they take it at the works? A. The Central Union are advantageously situated in regard to supplying coke. They have a steady trade which takes the coke as they make it. The result is that they are always able to market their coke at a price better than it is marketed down town and it is taken with such

regularity that they do not have to pile it and handle it as the companies do down town."

Now you understand, do you not, that Mr. Doane who testified in regard to that is the president of the National Coke & Coal Company which handles the coke for the Consolidated Gas Company?

A. The figures which I gave confirmed the statement, that it does cost more.

Q. Did you ascertain that from your reading?

A. I think I did.

Mr. BURR: And also an officer of the Central Union, is he not?

Mr. MATHEWSON: No, I don't know that he is. He knows a good deal about the company.

Q. Now you have made some reference to the fact that individuals interested in the Standard Oil Company were also interested in the Consolidated Gas Company as perhaps explaining something in reference to the so-called excessive price of oil. Can you explain on that theory why the company should establish a coal gas plant at Astoria instead of a water gas plant, which would use a great deal more oil?

Mr. BURR: That is objectionable because it is not re-cross-
3595 examination. There was not anything brought out about that on the re-direct, and that was a statement that he made in his direct-examination, and Mr. Mathewson cross-examined him as fully as he might or desired.

Mr. MATHEWSON: And it was a statement which he knows he should not have made.

The MASTER: I do not think that is important, Mr. Mathewson.

Q. I read further from the Central Union case in reference to the coke.

"By Senator PAGE:

"Q. Why is it you have so much better market for coke in the Bronx than they would have in Manhattan? A. I think there are two or three reasons. One is, they do not produce as large an amount and they have a large territory to supply and there is a large amount of building going on.

"Q. When you say they, whom do you mean? A. The Central Union. We are testifying now in regard to the Central Union. There is a large amount of building going on in that Bronx district, an exceptionally large amount, and it is customary for building contractors to use coke in portable boilers, &c., and I am under the impression also that they get domestic trade among smaller houses, one family and two family houses, which they do not get down town among families who live in apartments. Those are the reasons I have in my mind for the ready sale they have for their coke."

A. I took that all into account, and the figures I used, if accurate, as I believed they were when I used them, would still *have* a
3596 large margin to be accounted for.

Q. We will account for it before we get through with your cross-examination, Professor.

A. All right. All I have are the exhibits.

Q. Have you any official documents showing how the Massachusetts Gas Commission treat the cost of gas as distinguished from the form of report which they require from the companies?

A. No, except that in the hearings it has been customary to bring in evidence showing the net cost which they have accepted as bearing on the case with great——

Q. And in reaching the net profits, they deduct the residuals and receipts from gas sold and so forth, do they?

A. Certainly.

Q. Well, now, in the matter of residuals, the residual is a necessary and inherent thing, isn't it, in the manufacture of gas and delivery to the burner? You cannot get rid of it? It must be?

A. Certainly.

Q. So it is a necessary part of the operating cost of gas. On the other hand, when you come to the returns from gas stoves or the returns from rentals, that is something which may or may not exist in the manufacture and distribution of gas?

A. That is right.

Q. So that there is a very clear distinction between the two, is there not?

A. But if you are going to put your capital in gas stoves you must put in your returns from them?

Q. I agree with you perfectly, but you must also contemplate the proposition that the Company may go out of the renting of gas stoves some day and have no return of that character to apply.

A. Well, then, it would disappear from the record and the capitalization of the stoves would disappear if they sold them. If they stop renting stoves you mean they would sell the stoves, I suppose?

3597 Q. Well, you might assume that. Now I asked you yesterday or was about to ask you when it was suggested my time had not come, what the result would be if you made a saving in taxes by reason of these contests; whether that would be applied to reduce the cost of gas or not. Taking that in conection with your statement that you think if interest accrued on taxes that were unsuccessfully contested, it should come out of the dividends to stockholders?

Mr. BURR: Isn't that purely and simply a matter of argument?

The MASTER: No, I think it is proper cross-examination.

A. I think in the long run those savings will go to the stockholder, if the price of gas is only fixed occasionally and during all the intermediate years it is not changed, with changes in taxes.

Q. You know that taxes are not fixed occasionally, but fixed annually in New York?

A. Yes, certainly.

Q. And you do know from experience that if a tax fixed this year on the plant or property of the company is not contested, that the tendency is to maintain that tax for the future?

A. Yes.

Q. So that the action of the company in contesting a tax which it

considers improper affects in substance not only the present but the future?

A. Yes.

Q. Don't you think in that connection that if a company prudently sees fit to contest a tax, upon the advice of counsel, and are unsuccessful, that they ought to be allowed to charge the interest that they pay on that tax to the cost of gas, provided if they are successful they charge into the cost of gas in future years only the amount of the reduced tax?

A. But I don't understand that there is any provision
3598 under the decisions of the State of New York, under which this is automatic, so that if the Commission, for example, fixed the price this year on the basis of cost of interest of $94,000 and next year that did not exist that the price of gas would be reduced by the equivalent of $94,000. I do not understand there is any such automatic provision of the State law. Therefore when we are fixing the price of gas now for the future and any $94,000 at the best is only a temporary expense for one year.

Q. Isn't it your observation from examination of the records here that the taxes of the company have been constantly increasing?

A. Yes, but I have had no record that there has been an annual interest of $94,000 on back taxes. This is only one year.

Q. You have not examined the previous years to see though, have you?

A. We have the year 1904 before us, I think, in the State testimony.

Q. Did you observe whether interest was included there?

A. I do not remember there, but in Mr. Teal's report which went back to 1900 I do not recall.

Q. I think it was in each year, Professor?

A. As high as $94,000?

Q. Oh, I don't know what the amount was, but the principle——

Mr. BURR: You mean the Consolidated has always contested its taxes.

Mr. MATHEWSON: I do not. I mean that wherever it has done so the interest, if it has had to pay a tax——

Mr. BURR: You say that is the principle which has existed for a series of years, if I understand you correctly?

Mr. MATHEWSON: I am afraid you do not understand
3599 very correctly. I do not think we need this colloquy on the record.

Mr. BURR: Yes. When you say to him you believe such and such condition of affairs has existed I thought you meant to have it go into the record.

Mr. MATHEWSON: I have no objection to what I said going in the record. That is to say, that wherever the company has had to pay a penalty upon the payment of a tax which it has under the advice of counsel protested and contested that that penalty has been charged in the operating cost of gas and, in our judgment, ought to be.

Mr. BURR: You were speaking of this $94,000 being an ex-

ceptional case and you referred him back to the previous years to show the same principle was adopted and acted upon.

Mr. MATHEWSON: I think it will be seen it is adopted and acted on.

Q. You referred yesterday to the cost of distribution in London, in Engand, in some of the largest companies. What did you include in the 4.02 cents for the South Metropolitan?

A. I included all distribution expenses outside of repairs and taxes, superannuation and profit sharing.

Q. What year?

A. I took most of the companies from here, from the Gas World Analysis of Accounts of Gas Undertaking, 1905, but for London, I think I did use Field's Analysis for 1905.

Q. Now, will you tell me what elements entered into this 4.02 cents for the South Metropolitan which you stated to be the distribution expense?

A. I think I will have to work it out over again, because I don't think I have those notes with me, therefore I will have to
3600 follow Field's analysis. South Metropolitan, on page 4, occurs salaries and wages for the South Metropolitan .65 of a penny. Then come repairs, which I said I did not include. The next item I find is directors and auditors, on page 5, .10 of a penny; salaries, .13; commission to collectors, .49; stationery and general charges, .42 of a penny; law and parliamentary, .15; bad debts, .06; public offices and testing stations, .01. That, I think, makes up the amount, because I said I omitted superannuation, profit sharing. That is 2.01 of a penny, if I computed right, which multiplied by two, you get 4.02 cents. I omitted in my original computation the .01 for testing stations on the ground that was in the nature of a tax, and I said I omitted taxes, so in my testimony it was two pennies exactly, and multiplied by two made four cents.

Q. Why did you leave out repairs?

A. I stated I was trying to compare an item analogous to your 9.45 cents, which was leaving out repairs in that case, too.

Q. Why did you leave out superannuation?

A. I stated in my testimony that that and profit sharing amounted to .11 of a cent in your company and it would have been fair to have carried that statement one step further and say that therefore the four cents which I finally got in London would be compared, not with 9.45 cents but with 9.34 cents.

Q. No, let us turn it around the other way——

A. And then again, there is another reason. Most of the superannuation and profit sharing, as I found on visiting the plant, concerns itself with the manufacturing portion of the plant, and not with the distribution portion.

Q. The profit sharing is not based on any particular portion of the plant, is it?

A. No, but most of the men who get the profits and most
3601 of the men who get the superannuation benefits are in the manufacturing portion of the plant.

Q. Now, as a matter of fact, when you take an item like profit

sharing, it means the employees received a certain figure, and they also receive a certain contingent figure for compensation?

A. Yes, they share in the profits.

Q. Then it is really labor as much as though it was not called profit sharing—isn't it compensation, anything you please to call it of that sort?

A. Some think it is.

Q. Well, don't you think it is?

A. Well, the other companies have not adopted it; they do not think it is an advantage.

Q. Well, it may not be an advantage, but as a matter of fact, it is a payment for labor, isn't it?

Mr. BURR: No, it is in addition to their labor. How can it be a payment for labor when it is an addition?

Q. Isn't it a payment for labor?

A. It is an addition to wages based on the profits of the company and given by the company for two purposes, as we learned over there, as near as I could gather, at least: Partly to encourage the men not going into Unions, and partly to encourage zeal.

Q. In other words, what the company pays is a certain fixed wage plus a certain additional wage which is contingent, which is what is included in the item profit-sharing, isn't it?

A. Yes. In a way. But even if you look—it is not fully that, but so far as it is it mostly relates to efforts to keep not the clerks and inspectors out of Unions, but to keep the men in the manufacturing portion of the plant out of Unions, and those are the men who get most of the benefit.

Q. However that may be, it is not a return on capital, but
3602 it is an expenditure in the operation of the plant in one branch or another, isn't it?

A. In the manufacturing branch it might be considered, but only a portion of it in the distribution branch.

Q. Wherever you distribute it it is an expenditure in the operating cost of the gas, isn't it?

A. Yes.

Q. And not a return upon capital?

A. Oh, yes. That's right, but I say in the distribution expense. I was not trying to find the profit of that company.

Q. Whatever part of that then would apply to distribution would be charged to distribution expense?

A. Yes, whatever would be added would be added, but even if you add that——

Q. Well, no matter about that——

A. The 1.08 is the entire amount paid out for superannuation and profit sharing of the South Metropolitan, which would be 2.16 cents, but starting on the basis of my personal knowledge on that subject not one-quarter of it goes to distribution, is a distribution expense. The rest is a manufacturing expense.

Q. This 1.08 pence is more than half as much as the total distribution expense, 2.01, which you figured up a moment ago, isn't it, so it is a very substantial item?

A. But it is applied on the whole system.

Q. I understand, but won't you answer my questions? It is a very substantial item, isn't it, when compared with the distribution items which you previously mentioned amounting to 2.01 pence?

A. Yes.

Q. Now don't you know as a matter of fact, a superannuation charge largely goes into the distributing branch of the plant, as much as 95 per cent. of it?

A. No, I don't know that that percentage goes into it.

Q. Don't you know that it does in the Consolidated Gas Company?

A. I don't know. Their expenses for the whole thing is
3603 small and I don't know anything about their statistics, and it has never been given.

Q. You have no knowledge that any different proportion went into any plant than went into the Consolidated plant in the distribution branch, have you?

A. I think so, yes. I would suppose that long continued existence of profit-sharing and the facts I learned about the long time the men had worked as stokers in the South Metropolitan Company lead me to suppose that a very considerably more than half of the superannuation must go to the works and not to the distribution system.

Q. That is your assumption and you don't know anything about it by analysis, do you, or direct information as to the distribution?

A. The actual percentage I don't know, but I know that a large amount of information was given us, indicating the great number of men at the works that got this profit sharing and superannuation.

Q. Will you look, Professor, at page 4 of Field's Analysis for 1905 to which you have referred and say what under the English practice are included in distribution charges, so-called?

A. Salaries and wages, wear and tear. That means not of the manufacturing plants. That is provided for elsewhere. Meter repairs, stove repairs, public lamps, rents payable, rents and taxes, directors and auditors, salaries of management—oh, there is a separation between distribution and management. I was reading it all as distribution because sometimes it is a fund to cover all their expenses of distribution over manufacturing.

Q. I am referring to the English system of distribution?

A. That stops, and I should have stopped, at the word "stove repairs," but there is a place——

Q. And management is put in separately, is it not, subsequently, on the next page?

3604 A. Management is put on the next page, but I used the word "distribution" in the same sense there that I did in your company; 9.45 cents in your company was everything, outside of holder, not covered by repairs and taxes.

Q. Now, I am asking you to take the entire management expenses. You know wages are lower in Great Britain than in America?

A. Yes.

Q. So you could not very well compare the distribution expense of London with the distribution expense of New York with a view to determining what the distribution expenses of New York ought to be?

A. It ought to be somewhat higher than London, but not the condition I think that exists.

Q. You employed here an argument as to the dropping of the expense of distribution with the addition of the sales of gas. In other words, the greater the sales of gas, the lower expense of distribution?

A. Yes.

Q. Won't you take Field's Analysis for 1901?

A. I haven't it.

Q. Well, I have it. Here is Field's Analysis for 1901. Take it and tell me what the distribution charges are there.

Mr. BURR: Objected to as incompetent, irrelevant, and immaterial. The period we are confined to here is the period of 1905, the existing conditions that are presently in England and the conditions that are presently here are what we are confining our attention to. What existed in 1901 as to gas conditions in London may be entirely different from the conditions that existed here in 1901 or in 1897 may be entirely different than they are for the year 1905, and counsel is strictly limited in inquiry as to the period covered.

Mr. MATHEWSON: You do not catch the point. This wit-
3605 ness on his redirect-examination cited British companies and proceeded to argue that increased sales meant lower distribution. Now I propose to show that from 1901 to 1905 not only the Metropolitan but the suburban companies, which have shown large increase of sales have at the same time shown a very substantial increase in the cost of distribution instead of a decrease; direct matter which you brought out on your recent examination on redirect——

The MASTER: I will allow it.

Mr. BURR: Exception.

Q. What was the distribution expense of the Gaslight Company of London for 1901? Was it not 3.04 instead of 6.14 cents approximately?

A. I want to make it on the same basis as the others.

Q. No, I ask now for the distribution expenses as they define it in London?

A. Well, that includes the repairs.

Q. It includes the whole thing which they put in as distribution expenses?

A. Well, on that basis, which is a very different proposition from what I was establishing——

Q. Well, I am taking the whole thing, distribution expenses, rather than selecting items that may tend one way and excluding other items which tend the other way.

A. I am not comparing with your 9.45 cents. This does not compare with that, but this 3.04 is the total charge for distribution.

Q. In 1905 what did they charge?

A. 3.72.

Q. Now how about the sales as between 1901 and 1905?

A. There was a large increase in repair items.

Q. I asked how did the sales compare in 1901 and 1905 by the Gaslight Company?

A. The gas sold in 1901 by the Gaslight Company, as given on page 2 of their return, was 21,160,142,000 feet.

3606 Q. And in 1905?

A. In 1905 it was slightly less; 21,018,423,000.

Q. In other words, the sales of the London Gaslight Company fell in those four years, did they not?

A. They fell by about 142,000,000 feet or about one-half of one per cent.

Q. Whereas the distribution cost increased from 3.04 pence to 3.72 pence, or in a much larger proportion, did it not?

A. Yes. The distribution including repairs increased from 3.04 to 3.72.

Q. You are dealing now when you use the word "distribution" with exactly what the English companies in Field's Analysis include under the term "distribution," are you not?

A. Yes.

Q. That is what I want you to do. Now, will you take the Commercial Company of London and tell me whether its distribution expense in 1901 was not charged as 1.91 pence?

A. Yes.

Q. Equal to 3.86 cents, generally speaking; and in 1905 was it not 3.73 pence, equal to 7.53 cents or nearly twice as great?

A. Yes, but the most of it was due to the repairs.

Q. Very good. What were the sales in 1901 as compared with 1905?

A. The sales in 1901 were 2,657,006,000, and in 1905 2,986,533,000.

Q. So that while there was a large increase in sales there was also an increase of distributing cost per thousand feet, wasn't there?

A. Yes.

Q. Now, will you take the South Metropolitan——

Mr. BURR: How much was it?

Mr. MATHEWSON: Oh, nearly doubled.

A. The distribution charges increased from 1.91 pence to 3.73, but the salaries and wages only increased from .39 to .53 of a penny. All the rest was addition in repairs.

Q. That is something like 30 per cent. increase in wages?

3607 A. Yes. It is the management charges, I think, that probably——

Q. Now, take the South Metropolitan Company and see if in 1901 the distribution charge was not 3.11 pence or 6.28 cents?

A. It was 3.11 pence.

Q. And in 1905, was it not 3.68 pence, equal to 7.43 cents?

A. Yes.

Q. And what were the sales in 1901 and 1905?

A. In 1901 they were 11,008,945,000 feet and in the later date they were 12,142,723,000; but any comparison of that should cover the same items that I covered and run right down through a series of years.

Q. Now, I take the average of these three companies, and find, if my figures are correct, that in 1901 the average distribution charge

was 2.98 pence per thousand or 6.02 cents, while in 1905 it was 3.71 pence per thousand or 7.49 cents; is that about right?

A. Yes.

Q. Now, taking the suburban companies, and taking the twelve suburban companies so-called, and which you have mentioned or which have been mentioned here, I find from Field's Analysis, if I am correct, that in 1901 the charge was 4.07 pence, equal to 8.22 cents for distribution, is that right?

A. Yes.

Q. And in 1905 the charge was 5.67 pence or 11.45 cents for distribution?

A. Yes. But the same thing——

Q. That is an increase of something like 40 per cent., isn't it—35 or 40 per cent. per thousand feet in four years?

A. Forty per cent.

Q. Now, will you give me the sales in 1901 of these companies as compared with 1905?

A. I don't consider that a fair comparison of the point I was making.

Q. Well, I do not consider a good many of yours fair, Professor, but that is a matter of argument. I am getting facts.

3608 A. But this does not take up the same point I made.

Mr. BURR: Do you mean to say it does not embrace the same items?

Mr. MATHEWSON: It meets the Professor's argument that as sales increase distribution falls per thousand feet.

Mr. BURR: That would be true if you took up the same items of distribution he took up.

Mr. MATHEWSON: You cannot prove anything by two or three of the items and seeing how they come out.

The MASTER: This is a matter of argument, gentlemen. Proceed.

Mr. MATHEWSON: Will the stenographer read the question?

The STENOGRAPHER (reading): Now, will you give me the sales of 1901 of these companies as compared with 1905? A. In 1901 it was 7,676,036,000 feet and in 1905 it was 9,540,954,000 feet.

Q. Isn't it true that the management charges increased between 1901 and 1905 in every one of the three Metropolitan companies and in twelve suburban companies with the sole exception of the Gaslight & Coke Company of London? A. That is quite possible.

Q. Won't you see if it is true?

A. But the difference is nothing like as great as in this other. The management charges in the three London companies are given in 1901 as 1.05 pence, and in 1905 as 1.08 of a penny, and for the suburban companies as 1.69 of a penny in 1901 and 1.77 of a penny in 1905.

Q. You said yesterday, referring to the cost of gas, that you thought the cost might be greater on account of the expense

3609 of the recent investigations. Will you point out any item in Exhibit 94 which you think is an expense of the recent investigations or give me from any other source any item which substan-

tially affects the cost of gas and is an expense due to the recent investigations?

A. I am waiting for the report of the accountants to know just what did enter into that.

Q. But you did not wait for the report before you did make this statement?

A. I remember something in the evidence that has been given in this case as to the sort of expenses that have been incurred during the last two years on those accounts.

Q. Can you point out any substantial item that materially affects the cost of gas which you attribute to the expense of those investigations?

Mr. BURR: "Legal and advertising," on Exhibit 94.

Mr. MATHEWSON: Advertising? We did not advertise the investigation. And the entire legal charge, if there had been none before, would not very seriously have affected the price of gas, would it? "Advertising and legal" appears in Exhibit 94 to be altogether .8 of a cent only; and can you point out any item also on Exhibit 94 which you say is attributable to the Gas Investigation, as an expense?

A. I understood that there were in those items the expenses that have been incurred on account of those investigations.

Q. Do you think they are large enough from your observation so that they would materially affect the cost of gas where an expenditure of $8,000,000 is necessary to produce and distribute the gas?

A. I think it should be taken into account, so far as they are found to exist.

3610 Q. Rather an insignificant item, wouldn't that be?

A. I don't know.

Q. Can you point to anything that is substantial there?

A. I don't know yet what the facts are on the subject, but I say I think I did not attempt to give figures definitely. But I said so far as there were such expenses, and I believed there were.

Q. You saw that the Gas Commission found the cost of gas to be 60.75 without allowance for the extra candle-power and for a reserve, and don't you know that Mr. Teal in his investigation from 1900 to 1904, found it to be substantially 61 cents every year, about the same figure?

A. My impression is that he found some such result.

Q. Don't you remember that was substantially what he found? You say you have examined this evidence very carefully?

A. I won't undertake to say exactly, but I do remember this, that the expense was a little less, as I recall it in 1905, than it had been in one or two previous years.

Q. But 1905 was the year in which the Gas Investigation took place that all this expense went into to which you have referred and that appeared to be less than in the years before when there wasn't any Gas Investigation?

A. Yes, but that might be entirely consistent with the fact there were expenses in the Gas Investigation.

Mr. BURR: Consistent or inconsistent?

Q. Do you think the cost of meter repairs is affected by density of sales?

A. I didn't state that they were in my evidence. I don't think very materially. Of course it takes a less trouble to run 10,000 meters probably than it would in a city which was more spread out, where there were not as many meters per mile of main, that is self-evident, but aside from expenses of connecting the meter and delivering it——

3611 Q. That is not charged to the expense of the repairs to the meter ordinarily, is it?

A. When a meter is taken out for repair and then repaired and put back I thought it quite likely the expense of cartage of the meter to and fro would be included in the meter repairs.

Q. You referred to the fact the other day that the services had decreased in number. Isn't it due to the fact largely that in many buildings there are many consumers now whereas fifty or seventy-five years ago there were very many fewer consumers per building?

A. Certainly. The buildings are higher and more people live on a given number of square feet.

Q. You have one big service instead of many single services?

A. Certainly.

Q. And you have as many meters connected with that service perhaps as were connected originally for the same amount of gas, have you not?

A. Yes. Here is the table which I said at the beginning of the testimony this morning was being prepared at the office, merely giving the figures which I had given offhand, showing apparently that your costs have declined more than they have in London. It is as follows:

Consolidated Gas Profits—1891-1895 *Compared with* 1901-1905.

Authorities: Complainants' Exhibit 84, pages 353-7; State Gas Commission Exhibit 144, pages 1053-1068, being Teele's Report; Complainants' Exhibit 78, page 347; Mr. Addicks' Testimony, pages 1944-5.

3612

Dividends.	Dividends.	Net earning.
1891	1901	1901
$1,771,482.50	$5,821,632.00	$4,028,670.56
1892	1902	1902
2,125,783.50	5,832,328.00	4,604,139.66
1893	1903	1903
2,657,235.00	5,974,766.00	5,003,514.17
1894	1904	1904
2,834,390.00	6,799,970.00	5,246,615.28
1895	1905	1905
2,834,392.00	6,800,000.00	*4,828,929.39
$12,223,283.00	$31,228,696.00	$23,711,869.06

Ex. 78, p. 347.

Assets.	Assets.
1891	1901
$41,699,890.26	$46,438,975.90
1892	1902
42,450,786.35	46,672,936.12
1893	1903
43,416,396.63	46,789,121.38
1894	1904
43,930,828.02	47,402,617.53
1895	1905
44,188,883.65	47,664,984.91
5)$215,686,784.91	5)$234,968,635.84
$43,137,358.98	$46,993,727.17—9% increase

Ex. 85.

Sales at $1.25½		Sales at $1.00	
1891.....	6,269,304,000 ft.	1901.....	10,296,955,000 ft.
1892.....	6,581,954,000 ft.	1902.....	11,494,338,000 ft.
1893.....	6,854,014,000 ft.	1903.....	12,766,545,000 ft.
1894.....	6,731,325,000 ft.	1904.....	13,170,760,000 ft.
1895.....	6,736,461,000 ft.	1905.....	13,283,164,000 ft.
	33,173,058,000 ft.		61,011,762,000 ft.

3613 (*) The profits are arrived at in this way: Mr. Addicks, pages 1944-5, testified that the gross receipts were $13,730,-193.50 and the gross operating expenses $8,964,486.98, from which should be excluded a tax item of $63,222.87, leaving a net expense according to Mr. Addicks of $8,901,264.11, after leaving in the expenses the bookkeeping charge of 10 cents for contingencies, depreciation and renewals. This leaves the net profits $4,828,929.39. If, however, only 5 31/100 cents contingent is allowed as in my testimony, the net earnings would be about $600,000 greater.

Mr. MATHEWSON: It certainly shows economy and efficient management and want of extravagance, doesn't it, as compared with London?

A. There has been a more rapid growth of business. It has doubled.

By Mr. BURR:

Q. What has doubled?

A. The sales in ten years have doubled in New York. That is a much greater increase than in London.

By Mr. MATHEWSON:

Q. You referred again yesterday to the three cents for reserve and you stated 10.89 cents was enough you thought for New York City to cover repairs, renewals and reserve. Didn't you in Chicago, as I

called your attention earlier, allow 10.16 cents for repairs and renewals alone and three cents reserve in addition?

A. I think I did.

Q. And didn't you say the repairs and renewals would be greater in New York than they would be in Chicago?

A. I don't think you quoted all I said on the subject in Chicago.

Q. Well, didn't you say that?

3614 A. I think I stated—well let us read what I did state in Chicago. My impression is that there was a phase—it was not exactly what you give. The figures I think are the same but I would not swear to some things in connection with it that perhaps is not——

Q. Isn't it true that in a coal gas plant, or a mixed coal and water gas plant, there are generally greater repairs and renewals than in a strictly water gas plant?

A. Yes.

Q. And Chicago is a strictly water gas plant, is it?

A. Yes, or it was at the time.

Mr. BURR: What page of the testimony yesterday are you referring to?

Mr. MATHEWSON: Page 41. After allowing——

Mr. BURR: Of his testimony yesterday?

Mr. MATHEWSON: No, I cannot tell you the page yesterday, because I only got the testimony as I came in. Page 41 in Chicago, after referring to the allowance about reserve, and so forth:

"The New York Consolidated Gas Company produces about one-quarter of the gas it makes in the form of coal gas and therefore requires more extensive repairs."

Mr. BURR: I think you read that once before. You are becoming much too infatuated with that book.

Mr. MATHEWSON: The witness took it up again and allowed 10.89 cents yesterday.

A. On page 41 I find my statement in the letter as follows:

"For meeting extraordinary depreciation, however, I have just computed in the New York case that a further allowance of three cents would be ample, and I think it would be on the safe

3615 side, although hardly necessary to concede in Chicago also three cents."

So it seems, I did not consider it hardly necessary, but I said to be on the safe side I would concede it.

Q. And you did concede it in your computation?

A. I did.

Q. And didn't you say down below, a little further on,

"It must be remembered that exclusively water gas plants like that in Chicago do not require as large repairs and renewals as do the mixed coal and water gas plants in New York."

A. Yes.

Q. And you allowed 10.16 cents in Chicago for repairs and renewals?

A. Yes. Since then I have the information of your witnesses in this case, indicating that there was not any three cents necessary.

Q. But you have said that over and over again and I did not ask you any such question.

Mr. BURR: Well, you asked him the question.

Mr. MATHEWSON: I did ask him about repairs and renewals, not about reserve at all.

The WITNESS: I include all of it in 10.89.

Q. While, at the same time you allowed 10.16 for repairs and renewals alone in Chicago and stated that New York would require more for repairs and renewals, did you not, as I have just quoted from your statement?

A. I said,

"I have just computed in the New York case that a further allowance of three cents would be ample,"

that is, I computed that a year ago, before the recent testimony.

Q. That was in addition to the repairs and renewals of
3616 10.16, wasn't it?

A. Yes.

Q. And then you went on to say:

"It must be remembered that exclusively water gas plants like that of Chicago do not require as large repairs and renewals as do the mixed coal and water gas plants of New York."

Now, have I quoted exactly?

A. Yes.

Q. Well, I will leave it there. Now, when you talk of renewals and repairs, isn't the line between the two very close so that it is sometimes difficult to distinguish whether an item should go to renewal or repair?

A. Yes.

Q. So that it is the best practice, isn't it, to take repairs and renewals together in a single amount to determine what should be allowed for that item?

A. Quite common to do that.

Q. Isn't it the better and the safer way in view of the differences in bookkeeping and discrimination in charging to one or the other account in different companies, if you desire to compare different companies?

A. I think that strictly speaking the more scientific plan of getting it exact is the sinking fund method rather than to lump it all together as an expense.

Q. I am not referring to that feature at all. I am only saying in dealing with the subject of repairs and renewals—current repairs and renewals, if you please—isn't it the best method of comparison to take the sum of repairs and renewals of different companies if you desire to compare them instead of comparing the repairs of one, with what are charged as repairs of the other, and the renewals of one with what are charged as renewals of the other?

3617 A. The main thing is to get the value on the same basis in comparison.

Q. And isn't it a safer and surer basis to take the repairs and renewals together when you come to compare with the repairs and

renewals of another company, so as to eliminate the difference in method of charging one account or another?

A. I think there is more agreement among engineers as to the amount of repairs necessary in the long run than there is in the amount of renewals, and there is great difference in the practice.

The MASTER: Cannot you answer directly?

The WITNESS: No, I say it is not safe to combine them in comparing one company with another unless you know they have treated renewal account on the same basis. If they have then it is better to unite the two items in the comparison.

Q. But where you haven't all the details showing precisely how each company treated it the safer way is to take the sum of repairs and renewals and compare it with the sum of repairs and renewals in the other plant, isn't it?

A. No, I think not.

Q. Now, you have spoken about the depreciation item as allowed by the Massachusetts company's municipal plant, three per cent. being fixed as the standard? Aren't you familiar with the hearings given by the Massachusetts Gas Commission in reference to Holyoke applied under the former law before amendment for permission to charge depreciation of less than five per cent. and the Gas Commismission refused to sanction it on the ground that five per cent. was not excessive.

A. I am somewhat familiar with that but there was a special condition there.

Q. Well, whatever the condition, that was the fact as to
3618 Holyoke, wasn't it?

A. But the condition is too important, it should not be ignored.

Q. Very good. State the condition. I do not wish to take any advantage of you?

A. The condition was that the depreciation was to cover, as I understood it, not normal depreciation in structural assets, but the depreciation in the difference between what the City had paid for the plant and its structural assets. The City had been forced by the Commission or had been directed by the Commission to pay a price which was apparently more than the structural assets, and that the State desired to have written off, as well as any decline from year to year in structural assets.

Q. Now, if you take the three per cent. which is established as the standard rate we may say in this municipal act to which you have referred in Massachusetts, that is one-half per cent. more than the two and one-half which Dr. Humphreys used in his computation of so-called life of plant, isn't it?

A. Yes.

Q. And you say that you took a thirty-three year average life of plant because you accepted a statement to that effect made by Mr. Humphreys.

A. That is a year ago, you mean, I did.

Q. Yes, a year ago, on a previous examination. Will you point out where Dr. Humphreys used thirty-three years for that purpose?

A. I took certain periods that he had given in the Holyoke case for the life of various parts of a plant and applied it to the whole plant, I have forgotten what now, and thought it would average thirty-three years.

Q. But you didn't find that he in that testimony or any other testimony took thirty-three years and stated it to be the life of a plant, did you?

A. Since that question was raised the other day, I have looked to see and I have not come across it and I think that forty
3619 years is more likely what he has always used. I simply meant to say that I had understood him to use thirty-three years when I was testifying in the Chicago case.

Q. You have referred to some practice in England in reference to retirement of debt by sinking fund. I will ask you again whether since you previously testified you have ascertained any company in the country which establishes or has established a sinking fund to accumulate instead of making final repairs and renewals currently?

A. No, I don't know of any.

Q. You referred to the cost of gas of the Consolidated Company of Boston, the average of that produced by the Coke Works and that produced by the Bay State as 31 and a fraction cents. Do you remember what it was—31.73 cents, was it, cost at the holder?

A. Per thousand feet made, I have it 31.25 cents, and per thousand feet sold 31.85 cents, in my notes here.

Q. For what period is that?

A. For the year ending June 30th, 1906.

Q. Haven't you information that the cost of gas computed on the make was 34.31 cents to the Boston Company for the year ending June 30th, 1906?

A. I have no such information.

Q. Where do you get your information that it is 31 and a fraction cents?

A. I will give you that information now. For gas bought they paid, as given on their return to the Gas Commission, $520,602.29 and I have it here that——

A. Yes, I find it before me—that for gas made, manufacture of gas at the works $878,065.98. And then residuals are $152,455.56; deducting that left a net cost at the holder of the gas made $725,-610.42, and that added to the figure just given of gas bought made a total of $1,246,212.71.

3620 Q. I was asking you about gas made, not gas bought, gas made by the Boston Company, not that received from the coke works?

A. Excuse me. I was giving you the combined figure of all.

Q. Well, that was not the question. I was asking you whether on gas made the cost was not 34.31 to the Boston Company?

A. I have it higher.

Q. Made by itself. Well, what have you higher?

A. I have the cost of the gas made after deducting residuals was 42.05 cents.

Q. That is by the Bay State?

A. Oh, that was by the Consolidated Gas Company, that is all put in here as one company, kept in this return. I haven't it separated for each one of those plants. That was done in the hearing in Boston before the State Gas Commission for that previous year.

Q. Very good, let it go. Now, as to the New England Coal & Coke Company gas, you now say you find it was enriched before delivery to the Boston Company?

A. I find it was so enriched in the years 1903 and 1904, as brought out in the testimony before the State Gas Commission, and I think I stated that that was the last year, for which I have information. The candle power from my recollection is, and I read it last night, that my testimony was that it was about nineteen. My recollection is about nineteen candle power. It was enriched partly by the coke works and partly by the Massachusetts Pipe Line.

Q. And that residual gas so received from the coke company you say went to the Consolidated Gas Company at about 23 cents for the last year?

A. Yes, during the year just closed.

Q. Whether that was enriched, and if so, to what candle-power during the past year, you don't know, do you?

A. I do not.

Q. Now, you testified that you understand now that the
3621 Dominion Coal Company that furnishes this Nova Scotia coal at $1.35, alongside, is not controlled by the same parties who now own the Consolidated Gas Company of Boston or the New England Gas & Coke Company, which?

A. I testified that so far as I could learn, and the only information I could get, was the directors and officers were altogether different individuals, in the case of the Dominion Coal Company or either the Boston Gas or the New England Gas & Coke. I didn't say that I knew positively whether it was the same interest or not, I only know that I got this information from *Moody's Manual.*

Q. At the time you did testify that they were under the same control your information was, was it not, that Mr. Henry M. Whitney was the president of both companies and that they were controlled by the same interests?

Mr. BURR: He didn't testify that he knew they were both under the same control.

Mr. MATHEWSON: Oh, I read his testimony from the Gas Commission and what it is, it is.

A. Why, I don't remember that I ever testified as to who was president of the New England Coal Company, but I did suppose that there was a very close connection between Mr. Whitney and the Dominion Coal Company as well as between Mr. Whitney and the New England Gas and Coke at that time, two years ago.

Q. Your best information was then, was it not, as you testified before the Gas Commission, that they were controlled by the same interest at that time?

A. I suppose they were two years ago. I know nothing of what has happened since.

Q. And you know, do you not, there was a contract in existence for the delivery of the coal at the time?

3622 A. Yes, I suppose there was, and *Moody's Manual* shows there was a contract for the delivery of it.

Q. The contract has not yet expired?

A. I suppose not. It is a contract according to *Moody's Manual* for the delivery of coal and something of that kind.

Q. Now, what did I understand you to say about the sales being an average of 80 cents or 86 cents in Boston?

A. I said that if the sales to private consumers at 92 and a small fraction cents in the year just closed be added to the sales to other companies at very much less than that and then the total price divided by the total sales, would give that figure; and I said that if for the next year we take the same figures of sales in feet but substitute for the 92 cents to private consumers the price that went into effect July 1st of 85 cents that would make the average a little under 80 cents.

Q. Don't you know that the gas that was delivered to other companies and which you have included at the price for which it was delivered to the other companies was delivered to them for distribution to their consumers?

A. Certainly.

Q. And do you mean that you consider it fair to take the price at which the gas was delivered to these other companies in their holders or in their mains, with no expense of distribution at all in, and compare that with the cost of gas to private consumers, delivered by the Boston Consolidated Gas Company at the burner?

A. No, unless it is coupled with further statements which I brought out, namely, that I stated it was sold to other companies. I didn't state it was sold to private consumers; and it must be coupled with this further fact that the cost of gas to the Consolidated Gas Company of a little over 30 cents would be higher probably if it did not buy so much in bulk from the New England Gas & Coke

3623 Company; it buys in bulk and then it turns around and sells perhaps one-fifth of what it buys to other companies. I do not consider myself that it should be stated that the price of gas in Boston is 79 and a fraction cents this year apparently as contrasted with $1.00 in New York, and I consider it is much fairer to compare 85 cents in Boston with $1.00 in New York.

Q. But did not the sales of gas to private consumers during the past year in Boston average 92 cents?

A. The present year?

Q. 92 cents?

A. I may have misled you by what I said. I meant to say 85 cents since July 1st in Boston.

Q. During the past year the average was 92 cents in Boston?

A. That's right.

By Mr. BURR:

Q. Since July 1st, 1906?

A. Since July 1st, 1906, it has been reduced to 85 cents in Boston. Before that it averaged 92 cents during the previous year.

By Mr. MATHEWSON:

Q. And you understand that under the Massachusetts law the company is entitled to increase the price to 90 cents if it chooses, do you not, legally?

A. Oh, yes.

At 1:05 P. M. a recess was declared till 2:15 P. M.

3624 After Recess.

EDWARD W. BEMIS resumed.

By Mr. MATHEWSON:

Q. You referred yesterday to some instances in which the Massachusetts Gas Commission had reduced the price of gas and named some cities for the purposes which you described. Is there any city in the list in which the price of gas was reduced by the Commission below $1.00 except the City of Charlestown?

A. No.

Q. And does not the City of Charlestown get this cheap coke company's gas?

A. I don't know. It did at one time, and they testified in a hearing, where I represented the city and was in that case, before the Commission, that they thought they would have to give it up and make their gas. And the Commission——

Q. You don't know of your own knowledge that they made any change, do you?

A. No. I read the report of the Commission in which they said it might have to be made or that the company thought so, but I don't know.

Q. If they find themselves unable to get this cheap gas, I suppose the Commission has the power to raise the price for them if necessary?

A. Yes, the Commission made the statement that they did it even though they might have to make their own gas.

Q. Let me ask you about this testimony of yours in Springfield, Illinois, in 1897. Do I understand you to deny that you said in substance in 1897 before the Legislative Committee at Springfield that you thought 90 cent was a fair price for the City of Chicago at that time for gas?

A. I wish to be understood as saying that I do not remember what I said then.

3625 Mr. BURR: In connection with the 90 cents?

The WITNESS: In connection with the 90 cents. All I remember is that I appeared before a committee, of which Senator Crawford was chairman, with respect to the consolidation of Chicago gas companies, or in connection with some bill relating to them, but I really don't remember what I said.

Q. Don't you remember that the question as to the price of gas in Chicago, or the price which should be allowed for gas, was discussed?
A. I think it was.
Q. Well, have you any doubt that you testified at that time that you thought 90 cents would be a fair price?
A. I have no recollection about it, none whatever.

Mr. BURR: That was in 1897?
The WITNESS: Yes.

Q. That is the best answer you can make, is it?
A. Yes.
Q. What do you mean then by your statement in yesterday's testimony "I don't believe I said it, but I have come to the conclusion I must have said it," in referring to the 90-cent recommendation?
A. I came to the conclusion in Chicago, I meant to say, that I must have said it, and in the previous testimony here a year ago, because of the insistence on the part of two or three people that I had said it, but I do not recall it.
Q. You are not willing to swear that you did not say it, are you?
A. No, I don't remember anything about it.
Q. Now, you referred to the Massachusetts dividends, and stated that the income of all the Massachusetts companies, net earnings, was $1,864,701.50, if I understood you correctly. Is that the
3626 earnings of all the companies including Boston?
A. I so understood it.
Q. And you stated that the return on the capitalization as paid out in dividends was 6.71 per cent., is that right?
A. Yes, that was taken from the last report to the Massachusetts Gas Commission.
Q. That was an average, was it not?
A. Yes, that means that there were a good many companies above 6.71, does it not? Whatever the percentage I gave, was it 6.71?
Q. Yes.
A. Of course, the average would not be the exact amount of all companies.
Q. And you do not claim, do you, that a well managed and a well situated company shall be held down to the average which all companies are able to earn whether well managed or whether well situated?
A. I have not said that. My basis of 6 per cent. was reached in another way.
Q. Were the Boston companies paying any dividends in 1904, the year which you selected for this computation?
A. The year 1904-5, do you mean?
Q. Yes, the year which you selected. Was it the year 1904-5?
A. Yes, that is the year covered by the last annual printed report to the Commission.
Q. What was the dividend of the Boston Gas Company at that time?

A. Well, I did not bring the report with me. I think it was 8 per cent., but I am not absolutely positive.

Q. You did not compute what they were earning on their capitalization as distinguished from what they were paying out in dividends, did you?

A. Not for that year. For the year just closed I did. I found out they paid out in dividends all they claimed they earned.

Q. Did you make any computation for this same year 1904-5 on that same basis?

A. No, but I did for the year just closed.

Q. Do you mean to say the companies paid out in divi-
3627 dends all they earned and put up no surplus?

A. I thought you asked about the Boston Consolidated Company.

Q. No, I asked as to all these Massachusetts Companies whose average you stated was 6.71 per cent. paid in dividends.

A. Oh, no, I did not make that computation.

Q. Nor did you compute for that year how much they earned or paid on their structural assets as distinguished from their capital stock outstanding, did you?

A. No. I think the Boston Company should be corrected for the year just closed. I think it was 7 per cent. for the year just closed, and that included all their earnings.

Q. Well, what was the Boston Company paying in 1904-'5 as distinguished from the——

A. That I don't remember but I think it was 8 per cent. I don't like to——

Q. Referring to this 7 per cent.——

A. I don't like to be very positive about the dividends there were in 1904-5, because the more I think about it the more uncertain I am.

Q. As to the dividends paid by the Boston Company during the last year ending June 30th, 1906, it appears, if I am correct, that the amount of dividends declared were $1,209,968. That would be 8 per cent., would it not on the capitalization, instead of 7?

A. I have it all here and can tell you——

Q. That is a very simple question. All I have asked is whether it would be 8 per cent. instead of 7.

A. The capital stock was $15,124,000——

Q. You can tell about, can't you?

A. I am looking for the dividends. Eight per cent., that is right.

Q. And you say the Boston Company paid all that it earned that year?

A. I have so computed it. The balance to profit and loss was $1,142,166.39 and the amount paid out in dividends seems to have
been $1,209,968, but in addition there was some other ex-
3628 pense, interest on notes $10,908.53 and sundry charges prior to July 1st, 1905, $21,702.50 and amount carried to employees' fund $50,000, so that in reality the total debit was $1,371,-632.42.

Q. So that it did not earn its dividend according to that by about $200,000 and odd dollars, $230,000, wasn't it?

A. There was a profit from the electric business of $129,539.80 and some other interest, so that its total—the final total earnings or receipts did not equal its disbursements of dividends and interest by $82,668.73.

Q. Now you spoke yesterday of the Haverhill case, and stated that in that case it was claimed that the structural value of the Haverhill plant had been built up out of the consumer. I am correct, am I not, in understanding your testimony?

A. I believe I so testified. That is, a large portion of it, not the whole of it.

Q. And therefore there was a question whether they should capitalize the plant, so far as it had been built up, out of the consumer?

A. Yes.

Q. That I suppose means that after payment of proper dividends and proper charges for the cost of gas, and a proper reserve, if any should be allowed, that there were still surplus earnings out of the consumer which had been put into plant?

A. Yes.

Q. Now in the case of the Consolidated Gas Company, unless part of that 10.89 cents which is charged for repairs and renewals has gone into the plant, nothing has come out of consumers to add to the cost of the Consolidated Gas Company's plant as far as you have observed, has there?

A. No. Of course there may have come out of the consumer the $2,000,000 due to the company, and unpaid and which did not exist at all in 1884, and something of that kind.

Q. But that has not come out of the consumer yet, if it is
3629 still due and unpaid.

A. No, going to come out of him, we will assume.

Q. And what there may be to offset that in the way of accounts on the other side you have not considered?

A. No, I have not considered those.

Q. And the Haverhill case has been in the courts a great many years, has it not, ten or twelve years, something like that, a very long time anyway?

A. It was in the year 1898 or 1899 that this case was tried in Haverhill and therefore it has been seven or eight years.

Q. And how long it was in the courts before the trial came off, of course you don't know?

A. I think I know that it came up first in the trial, that is the case has gone into the courts with respect to sustaining the decision of the Commission, so it could not have arisen before. I was in the Haverhill case and remember that feature of it.

Q. You speak of Chicago, where you fixed a structural value at $3.20 and compare that with New York when you say the assets upon the Yalden's figuring with the additions amount to about $2.20, which makes, if I understand, $1.00 difference per thousand feet of sales in the relative capitalizations. Is that right?

A. Yes.

Q. And you say that that can be explained by a difference in the bids?

A. Not altogether, I did not mean to say. The Yalden figures,

which I did not tie down to as absolutely conclusive, are based on the cost of the land at the time it was bought, but I said most of the addition was due to the mains.

Q. Did you take the cost of the Chicago land at the time it was bought or the value which you considered to-day?

A. I don't recollect.

Q. You certainly must have had some definite idea on that, Professor, didn't you, as to what you were taking?

A. I think I took a figure based upon a general view of the
3630 cost of water gas plants per thousand feet of capacity and some knowledge that I had of other features of the plant and made some assumption on land, but I think I stated very positively to the Committee that no very close approximation could be given without an engineering investigation.

Q. I know, but let us take this tribunal instead of that Committee. You said your $3.20 in this pamphlet which I have called your attention to relating to Chicago, was the cost of duplication. That means, does it not, the cost of the land, if procured to-day?

A. I don't know just how I took it, but I think I took it on that basis.

Q. And yet, in figuring out the $2.20 upon which you say the Consolidated Gas Company is entitled to a return, you take, not the cost or value of that land to-day, but the original value beginning with 1823?

A. I think that should be done in Chicago, too, but I did not have any data for it.

Q. Then you do not make this $1.00 difference relating wholly to mains?

A. Not wholly, but it is largely.

Q. What is the condition of the streets of Chicago as to pavements, as compared with New York?

A. It is poorer.

Q. Much poorer, isn't it?

A. Yes.

Q. Are not the streets of New York more congested than Chicago?

A. Yes.

Q. Is not laying of mains very much more expensive in New York than in Chicago?

A. Yes.

Q. Is there any rock to speak of in Chicago?

A. No.

Q. What is the cost of excavation of a trench, say, for an average pipe, as between earth and rock?

A. I have not the figures with me now at all.

Q. Is not the cost of putting mains through rock in a city street with the care there has to be taken by reason of the surround-
3631 ings five or even ten times as much as it is digging a trench to lay the same main in?

A. Not that difference, but there is a considerable difference.

Q. You don't think it would be as much as ten times?

A. No, not——

Q. The excavation in soft earth, and I am speaking now simply

of the excavation of the ditch, does not the excavation of a ditch in rock——

A. Where you have to blast, do you mean?

Q. Well, not necessarily, because in a city like this you cannot blast frequently, but have to pick it out. In such a case as that is not the cost of producing a trench four feet deep in solid rock ten times a much as it would be to dig that trench in soft earth?

A. I would not undertake to give the exact figures.

Q. You have spoken about the mains in Chicago as being 2½ times in mileage what they are in New York?

A. Yes.

Q. And that the density in New York is greater. Do you know the sizes and lengths of main in New York classified as to sizes?

A. Only as given in the exhibit, yes.

Q. Have you got it in Chicago?

A. No. I have it in New York, that is what I meant to say.

Q. Do you know how the mileage in Chicago compares as to size of mains with New York?

A. No.

Q. Are not the larger mains very much more expensive?

A. Yes.

Q. Both to purchase as material and to lay when you have purchased them?

A. Yes.

Q. Because you have a very much bigger ditch, is that not so?

A. I have no reason to believe that the mileage would be much larger in New York, that is they have to take out from the works here 2,000,000,000 feet more than they take out from the works in Chicago.

Q. I am trying to find out what you know about it. Is it
3632 not true that the heavier the consumption off mains the larger the mains, other things being equal?

A. Yes. I think it would be larger here than in Chicago.

Q. So you cannot take two and one-half times the figures of the New York mains and say that that represented the value or cost of Chicago mains?

A. No, not directly.

Q. You gave the cost of the Chicago plants by your estimate as something like $35,000,000?

A. I said $3.20 multiplied into the 11,000,000,000 feet.

Q. That would be a little over $35,000,000?

A. I think so.

Q. Now, your figures for the mains in New York as I called your attention to them in your cross-examination were about $8,400,000. If you multiplied that by 2½ times, assuming that the mains were of the same size and same value, that would make something over $20,000,000, would it not?

A. Yes.

Q. You would not say for a moment, would you, that the value of the mains in Chicago was over $20,000,000 if the value of the entire plant, manufacturing, holders, mains, meters, services and everything was only $35,000,000?

A. I think that would be a little too large a proportion but——

Q. Have you any reason to suppose that the mains in Chicago cost more than $5,000 per mile, laid?

A. To lay?

Q. Laid as they are, as they stand?

A. I think they would cost—well, I don't know, I would not undertake to say.

Q. That would not be an unfair figure, would it, offhand?

Mr. BURR: If he knows.

Mr. MATHEWSON: I am asking the Professor on this subject——

3633 The WITNESS: Well, I don't know that.

Q. In soft earth?

A. I would have to know the average size and a great many things I don't know about the Chicago mains.

Q. Well, assume an average size, that would not be out of the way, would it, $5,000 per mile?

A. Well, I don't know the conditions in Chicago. They claimed there in the testimony according to Meagher's claim that the expenses there were very large for laying.

Q. They are large anywhere for laying?

A. He said they were much larger there than Cleveland.

Q. Who is Mr. Meagher?

A. The attorney for the company.

Q. In your calculation, did you estimate at more than $5,000 a mile?

A. I don't remember now.

Q. And you would not say that you did, would you?

A. I could not say.

Q. You would not say positively that it would cost more than $5,000 a mile on the average to lay those mains, for material and labor?

A. I could not say.

Q. So you are not prepared to say how much, if any, difference does arise by reason of the greater mileage of the mains in Chicago in the total value of plant?

A. I have not attempted to fix a definite cost of the mains here. I have taken only the book value of the mains and the various data of the 1884 valuation and the extensions since then. I have not attempted to make an independent estimate as to the value of the mains, that is, in this hearing.

Q. Yes, but yesterday in your redirected-examination you made some comparison between the $3.20 per thousand feet for capital value in Chicago and $2.20 in New York, and I understood you to attribute that difference largely to mains. And I am trying
3634 to find out whether you had any foundation for that. You say you are unable now to make any comparison?

A. I know the considerable portion of it was due to mains. They have 1,200 miles more mains there than here.

Q. But it may have been smaller on the average and have cost very much less to lay per mile?

A. I think the 2,000 miles will cost much more than the 800 miles here.

Q. Let us take $5,000 per mile, which you say you cannot say was too low, and figure that. That amount multiplied by 2,000 miles would be how much, $10,000,000 would it not?

A. Yes.

Q. The figures for the mains here in New York were $8,400,000, which would mean about $1,600,000 difference on that basis?

A. I think that is sufficient itself to prove that—my figure in Chicago would be higher probably.

Q. We do not think it is. You conclude merely from that comparison that the figures in Chicago would be higher without knowing what the size of mains is in Chicago as compared with New York, and without knowing what the cost of laying them is in Chicago as compared with New York?

A. I think it would be more than that.

Q. Do you know anything about it?

A. No.

Q. In Montreal you stated you took $4.30 as the value per thousand feet?

A. Yes, sir. It came to that.

Q. And you said you made that average among other things, because that was a municipal plant and you wanted to be on the safe side. Is that a fair statement of your testimony yesterday?

A. I do not think it is quite what I said, but it is along the line of what I said.

Q. And you thought, did you not, that the city might establish a municipal plant which would test your figures, and you wanted your figures to be fair?

3635 A. It was not that; but I wanted them to be quite high enough to warrant,—I knew there was always a margin with a municipal plant, with a possibility of large cost.

Q. When you are going to estimate for a private plant, don't you want to be just as fair and liberal?

A. Yes, and I want to in this case, and that is why I want this engineering valuation. I have been the most insistent in asking for it——

Q. Do not wander off. Just answer the questions and we will get along more rapidly. Why yesterday did you lay emphasis on the fact that you gave this liberal estimate because it was a municipal plant?

A. I did not lay great emphasis, but I said it did affect my view of the cost. I wanted to be very liberal with them. I would rather err on that side in makiig such an estimate as that, but I do not think it is necessary to take that into account at all in explaining the difference. I took lower unit figures than I have here.

Q. Lower unit figures on what?

A. Lower unit figures than were taken here.

Q. On what?

A. On coal gas and water gas I think—or at least no higher figures per capacity, about the same, about $100 for water gas and $200 per thousand feet capacity for coal gas.

Q. $100 to cover what?

A. Just the manufacturing plant aside from land and holders.

Q. But your whole thing figures up $4.30 average for the entire outfit.

A. Yes, but they had three hundred miles of mains.

Q. Is it not a fact that you did take $4.30 all told?

A. Yes.

Q. Now you bring up the question of mains and output.

A. And I gave them a larger manufacturing capacity in proportion to their annual sales than what the testimony shows they have here in New York, where they buy even part of the gas they sell.

3636 Q. Yes, but the gas which we buy, as you put it, requires a plant to produce it and we will reckon with that later, so that need not make any difference with us. In the City of Montreal, as in other cities, I suppose, labor is the one thing that goes to produce every part of plant, that enters into every detail?

A. Yes.

Q. Are not wages lower in Montreal than they are in New York?

A. I should think they would be but I do not know definitely.

Q. Did you not testify in Chicago that they were?

A. Very possibly. I think myself they are now. I don't know what I testified.

Q. Now let us take mains. You said that they had to be laid six feet deep. The cost of the system of mains for a great company is a small fraction of the total value of the entire plant anyway, is it not, generally speaking?

A. It is quite a charge.

Q. Oh, a substantial part, but it is not the half of it.

A. Mains and services often constitute over one-third.

Q. In New York they did not, according to Yalden's figures in 1884, did they?

A. I don't remember now, just what his figures were on that.

Q. Now, the expense of digging a ditch two feet deeper than in New York is not going to make a very great difference, is it, in the capitalization per thousand feet of your entire plant if it is dug just in the soil of Montreal?

A. The report shows there was a good deal of rock there but——

Q. How much rock?

A. I have forgotten exactly.

Q. I have your report. Look at page 1370 and see if it does not appear that the entire number of miles of rock through which the city water mains are laid is only 12¾ miles and if you did not consider that and use that in your estimate?

A. I stated in another place just what percentage I used of rock. I think you can find it.

3637 Q. Yes, 12¾ miles, is that right?

A. I think you are looking at the wrong place, not what I refer to.

Mr. BURR: What is the document you are referring to?

Mr. MATHEWSON: This is the Professor's report to the City of Montreal.

The WITNESS: This is what I said: "In the system of 300 miles it is assumed that 25 miles will be laid in rock and 33 miles in paved street. The entire number of miles of rock through which the city water mains are laid is only 12¾ and the suburban companies, if I recall aright the statement of its engineer, has less than ten miles in such ground. Then since this proposition was to cover a gas works which went out into the suburbs, where the other rock was located, I assumed 25 miles and not twelve.

Q. Is it not a fact in Montreal there were only 23 miles of modern paved streets, with modern paving?

A. Yes.

Q. And there were about 300 miles of streets altogether, were there not?

A. In the city and suburbs, I think, there were.

Q. Which you dealt with in your estimate?

A. Yes.

Q. And is it not a fact that there were only about 100 miles of permanent sidewalks and the other 240 miles were wooden sidewalks?

A. I don't remember now, but if it is in the report I accept it. It is about that.

Q. These things were before you at the time you testified before the Gas Commission?

A. Yes.

Q. And I read from your testimony——

A. I accept what you read.

Q. "And with approximately 100 miles of permanent side-
3638 walks and 240 miles of wooden walks."

The cost of labor is less in Montreal than in New York?

A. Yes, but material is higher.

Q. Is not land cheaper in Montreal than in the Island of Manhattan?

A. Yes.

Q. Is it not cheaper in Chicago than in New York, if you choose your own site for a gas plant?

A. Yes, and buy it to-day, I think so.

Q. Can you tell me now the average structural value of gas plants in the United States taken as a whole per thousand feet? It appeared in this table that you quoted something—$7.23.

A. What you show me is a computation made by the City statistician of Chicago and purported to be compiled from a United States census report. I have not attempted to verify the computation. I didn't have, when I was testifying the other day, the bulletin from which that was quoted.

Q. Well, that is the same table from which you have already quoted one or two things, is it not?

A. I did not quote from that statement of Mr. Grosser's at all. I quoted in my testimony direct from the bulletin itself, but I do not think there is any large difference between the figures.

Q. This appears to be $7.23, which is the same figure that we used

before the Gas Commission and in our briefs. Have you any doubt that is substantially correct?

A. No. I think it differs a little from the bulletin, I don't know just how, but the difference is not large. Some figures are different. I noticed Massachusetts is a little different.

Q. But you think it is substantially correct. If you find it is not, you can correct it.

A. Yes.

Q. Now, referring to the cities which you named in table 19——

A. On bonds and stocks, is that?

3639 Q. Yes. You stated that including all of them that there was an increase of assets approximating the increase of sales and that if you left out Lowell and Lawrence the result would be somewhat different. Leaving the situation as you left it, is it not true that the assets or the capital would not show a corresponding increase to the sales or to the proportionate sales if the stocks were sold at a premium?

A. The stocks and bonds and notes did not appear to increase much.

Q. And that might be due, might it not, in the case of Cambridge, for instance, that the stock was sold at double its par value so that the stock was increased at only 50 per cent. really of the increase of assets?

A. Yes, so far as there was a premium that would affect it, that is true. I don't think——

Q. And it would affect Lowell particularly, would it not?

A. Yes, I don't think it would wipe out the difference, however.

Q. Pardon me.

A. I don't think if the stock increase of about half a million of dollars, stocks, bonds or notes, I forget which it was that increased, but there is usually quite a premium on stocks, and I do not think the stock increases after taking account of the premium would——

Q. Equal the increase in assets?

A. Yes, equal the increase in sales.

Q. Or equal the increase in assets?

A. I don't know as to that. They were not very different, however.

Q. The assets might be increased there from application of premiums on stock or by application of surplus earnings to capital account?

A. Yes.

Q. You spoke of sales in Boston in 1892 and 1893, as compared with sales in Boston in 1895 and 1896 and showed quite a

3640 large increase. Will you name the companies which you included in that computation?

A. That was a computation for one year in each case. It was not the years 1892 and 1893 but the year 1892-3 because their year begins July 1st, likewise for the other year, whatever it was, and I took the six companies that sold to private consumers, that is, I omitted the Bay State and the Massachusetts—the Massachusetts

Pipe Line, I think, was not in existence—I omitted the Bay State. That left the Boston, Brookline, Jamaica Plain, Roxbury, South Boston and Dorchester.

Q. Now, in reference to New York, you spoke about the sales from 1890 to 1895 being 33,173,000,000 feet?

A. Something like that, as I recall it.

Q. And from 1900 to 1905 as being about 61,000,000,000 feet?

A. Yes.

Q. Now, 1890 to 1895 included the period, did it not, of very great depression, for the sales of the company did not increase at all?

A. Yes. Two years, I suppose, of it.

Q. Whereas the period of 1900 to 1905 included a period of great prosperity, that included the two coldest winters on record, and included the period of the coal strike, all in one. Would not that have a material effect in making these comparisons?

A. I have already testified as to two of those causes having an effect, namely, the prosperity and the coal strike. I have testified that as to the cold winters I was not aware that that effect would be——

Q. As to the increase in assets——

A. I will frankly say, in a natural gas territory where people depend on gas for all their heating, then a cold winter would certainly increase consumption of gas, but I was testifying with regard to New York when I said I was not certain.

Q. We will take the proportionate increase of assets of the

3641 Consolidated——

A. Nine per cent. I think that was on the average.

Q. Whatever it may have been. You understand, do you not, that within the last two years the company has been crowding its buildings with machinery until, as the testimony is, there is room for no more?

A. Yes.

Q. So that that increase might be due, to some extent, to the fact that they have larger buildings in which they were able to install more apparatus without purchasing more land or buildings?

A. Certainly. The fact that the assets increased so slightly over nine per cent., while the consumption doubled, was in part due to a greater use of the land as manufacturing plant and partly to the fact that the company has been purchasing part of its gas, but that would not account for it all by any means. The assets would not have increased, I believe, proportionately to the sales even if you take account of those two factors.

Q. The argument is then that the increase shown does not represent a normal increase provided the company had purchased all its own gas and had a plant reasonably crowded with apparatus, but not over-crowded, but at the same time that you think that the assets would not have kept up the same proportion of increase as the sales?

A. That's right.

Mr. BURR: I want to call attention to a mistake made on page 3546. The last question: "What has been the effect on price of price reduction in New York?" It should be, "What has been the effect on profits of price reduction in New York City?"

Q. Referring to the table of dividends from 1887 to 1905, I understand you to say now that you took in 1897 the amount
3642 which was paid in dividends without respect to the amount of earnings?

A. I believe I did. I had no earnings before me and I do not consider it as fair a comparison as to take five years as I had just done in another comparison, taking the five years ending with 1895 and comparing them with the five years ending 1905.

Q. Well, that is the table which I hold in my hand and which I have preliminarily marked 21?

A. That is the table that takes the five years. I consider that fairer than a table that takes one year, but I brought that out because so much has been said of the year 1897 as representing relative conditions as to cost.

Q. But even in this table 1891 to 1895, you have dividends paid out, without regard to the amount that was earned in those years?

A. Yes.

Q. On the other hand, from 1901 to 1905 I understand you take earnings rather than dividends?

A. Yes. I did at first take a table of dividends and might have inserted it there. It would have brought out a larger payment, but I considered it fairer to take the earnings and should have preferred to take the earnings for the first period if I could have found them, but I had no data about them.

Q. As a matter of fact, isn't this an unfair result of the operating period from 1891 to 1895 when the dividends paid out were not equal to the earnings, to compare it with the years 1901 to 1905 when the dividends paid out exceeded the earnings, as you observed by the testimony, didn't you?

A. I had no evidence as to whether the dividends exceeded the earnings in the first period.

Q. But you know that in 1901 to 1905 the company's stock had been largely increased for the purchase of securities of other companies?

A. So it appeared in the evidence.

3643 Q. It had been increased from 1900 to 1905, from $39,078,000 authorized capital to $80,000,000 authorized capital, hadn't it?

A. And I should, come to look at it, thought that I did have a column of dividends here.

Q. That shouldn't be. It should be earnings, shouldn't it?

A. No. I have them computed here, they are marked right, but I considered the column of earnings a fairer comparison of earnings than the dividends for the last five years.

Q. Were not part of those earnings from securities of other companies?

A. These net earnings?

Q. Yes. The last period, 1901 to 1905?

A. For the last year it certainly was not, and for the previous four years I thought it was not so, I took it. I thought it was the net earnings from gas alone as given.

Q. Excluding securities of other companies?

A. I thought so. It purported to be, it used earnings from gas only.

Q. Now, take the item of assets, 1901 to 1905, ending with 1905, $47,664,984.91. That you know from Exhibit 78, to which you refer on this sheet, represents in all four items of real estate, plant, property and construction so-called, do you not?

A. Yes. The same as in the other period.

Q. But it does not include materials nor working capital?

A. Certainly not. I compared the same things in both columns.

Q. This is merely to compare the similar items at different times?

A. Yes, and that constituted over 90 per cent., if I recall right, of the total.

Q. Whatever it may be, I want to be sure. You understand the effect of the comparison?

A. Certainly. I so understood it. It meant the mains and services and meters and lamps and the manufacturing plant and holders. It did not refer to money on hand or money due for supplies on hand.

3644 Q. Now, I find down below that on this table an item "Sales at $1.25½, Exhibit 85." That refers to the number of feet sold in the years 1891 to 1895, does it, with the average rate applied?

A. Yes.

Q. And now as to the other side, "Sales at $1.00," 1901 to 1905, stated separately. This 13,283,164,000 feet in 1905 was not sold at $1.00, was it, entirely?

A. There were a small amount sold to the City at 90 cents, I think.

Q. So this would not be exactly accurate?

A. It was intended in both cases to be round figures. It would not vary half a cent. Yes, it is a round figure. It was not attempted to carry out the decimal.

Q. It included sales to the City——

A. In both cases the same.

Q. Whereas that would be sold at 90 in the latter part of the period?

A. And in the former there were sales to the City, too. I only know in round figures. Attempting to have it relate to the price to the private consumer in both cases.

Q. Now, as to the increase of mileage of mains in New York, do you know whether the increase is larger in the large sized mains than in the smaller sizes?

A. I believe it is, as I recall. Since 1884, you mean?

Q. Yes.

A. Also in the services, I think, probably. There has been no increase in services but they are larger.

Q. Now, you referred to the sales in Syracuse from 1901 to 1905 and show, if your information is correct, an increase of nearly 50 per cent. Don't you know that that period not only includes the two severe winters and the period of prosperity and the coal strike but a complete change of management of that company, particularly as to the sales department?

A. I believe there was a change of management. I don't
3645 know whether there was any great change in the sales department. I don't recall any evidence about that. There may have been.

Q. Do you mean that the net profits from sales of gas was somewhat larger than they were under the previous sales?

A. I think in my testimony I gave the total net profits as reported by the company for each period, and there was an increase.

Q. You stated something yesterday in reference to the method of collecting bills at Chicago. You understood they were paid at the offices of the Company instead of through the express offices, did you?

A. I so understood although I said I was not positive.

Q. Would the fact that I have long distance information to the effect that they have been paid, or some of them, through the express offices, modify your impression?

A. Yes, if you have that.

Q. I have it, for what it may be worth. You referred to Milwaukee. You know, do you not, that the amount sold at the lower rates in Milwaukee was very small in proportion to the total output?

A. I don't know anything about it? I have never seen any analysis of the sales in Milwaukee.

By Mr. BURR:

Q. You are referring simply to what Mr. Cowdery said in regard to it?

A. Yes, as quoted in this Council Committee's report. I do know this——

By Mr. MATHEWSON:

Q. In other words, that these very low rates have reference to what is called "daylight" consumption?

A. I know this. Excuse me a minute. Can I have that Committee report again? There is a point bearing directly upon
3646 that on that Council Committee's report. This statement that was read yesterday from Mr. Cowdery——

Q. Do not read it over again. Just answer the question.

A. Yes, but I want first to notice it (page 13). It is to the effect that the low price of 60 to 90 cents is for gas used for fuel. That is for heat and power and, as you say, is largely a day consumption. Now I did read before my testimony that the last edition of Brown's Directory gives over 50 per cent. of the sales of that company as day consumption. I think it was 56 per cent.—anyway, over fifty.

Q. How much of that relates to the gas burnt at $1.00 or 90 cents or 95 cents for gas stoves and fuel purposes of that kind, you don't know, do you?

A. I think it would indicate 90 or lower.

Q. Do you know what the average in Milwaukee was?

A. No, but the day consumption according to this report or this statement of Mr. Cowdery's, the day consumption would naturally be the fuel consumption. Now the fuel gas it says is furnished at 80 cents a thousand and to large users it goes down to 60, and if over half of that consumption is day consumption, then over half of the consumption ought to be less than 80 cents or a little of it might be used for light at $1. On the other hand a great deal would be used by the 60 and 70 cent users.

Q. You are simply reasoning now.

A. It is positive the average must be below 90.

Q. It is positive that the average of the gas sales in Milwaukee was below 90?

A. I would say that was a positive deduction from those statements.

Q. Well is it? Does the statement that this 60 cent grade is used in day consumption prove that all day consumption is at the 60 cent rate or anywhere near that?

A. No, but all the fuel consumption is 60 to 80. I don't say all at 60. Eighty is for fuel and then it runs from 80 to 60,
3647 according to the amounts used. Not all day consumption is fuel consumption, certainly.

Q. You don't know the average rate received for the gas, do you?

A. No.

Q. Isn't it true that Mr. Cowdery who describes himself, as you said, as the father of reduction of price, or whatever it was, estimates a fair price for gas in Chicago under conditions there at 98.67 cents?

Mr. BURR: I think you went all over that before with him, Mr. Mathewson.

A. I was very much interested.

Q. Of course you were.

A. Yes, and the company reduced to 80 cents immediately afterwards.

Mr. MATHEWSON: I move to strike that out.

Mr. BURR: It is the fact and you have brought it out yourself already. This is the second or third time.

The MASTER: Answer the question.

The WITNESS: Yes, I said to the question asked. Mr. Cowdery said 98 cents was all they could do, if you read it correctly. I don't remember it exactly.

Q. Won't you see if I did read it correctly, if you have any doub' about it?

A. Will you point to the exact place.

(Counsel indicates in book as requested.)

The WITNESS: 98.67 cents was Mr. Cowdery's estimate.

Q. Which included 34.92 cents for return on capital, didn't it?

A. Yes.

Q. Now you referred to Baltimore. Isn't it the fact that at

Baltimore you were testifying in favor of sustaining the valuation of a company for purposes of taxation in behalf of the city
3648 and that you did estimate the value of the property at twenty times the net profits and testified as you admitted testifying on your cross-examination?

A. Yes.

Q. And gas in Baltimore at that time was $1.10 a thousand, wasn't it?

A. Well, I thought it was a dollar, but I am not sure.

By Mr. BURR:

Q. What year?

A. This year, the spring of this year.

Mr. MATHEWSON: I think it was one dollar and ten cents, with provision for some cut in case of early payment or large consumption, wasn't it?

The WITNESS: I think they lately made a reduction to a dollar, but I am not sure.

Mr. BURR: The same plan was followed in Milwaukee, as Mr. Cowdery referred to—the reduction for large consumption.

Mr. MATHEWSON: Oh, No.

The WITNESS: No, but for prompt payment.

Mr. MATHEWSON: The arrangement was very different, as I understand it.

Q. Table 20 of page 3558, has in the final column the heading "return on the investment, per cent." What do you mean by "investment" as you used it there?

A. Purchases of the securities. Investment in stock or bonds, as the case may be.

Q. You mean return on what you concede to be the selling price of those securities?

A. Yes.

Q. Not on the structural assets or anything of that sort?

A. No.

Q. Now you figured out yesterday, taking 58/59 cents as
3649 the cost of gas and return on a certain capitalization which I think you stated to be $46,500,000?

A. Yes. Six per cent. on that.

Q. Now you took a six per cent. rate on that?

A. Yes.

Q. And all your computations on that yesterday were based on six per cent., were they not?

A. Yes.

Q. Now, that $46,500,000 does not include the franchises, does it?

A. No.

Q. And it does not include the Astoria investment?

A. No.

Q. Nor any assets of other companies producing gas which we receive but do not manufacture?

A. No.

Q. And good will?
A. No.
Q. Value of an established business?
A. Well, there was a three-million dollar margin, that was all.
Q. Yes, I understand. I am speaking now about the $46,500,000.
A. Well, I say in that there was a three million dollar margin.
Q. I understand that, but I say that did not include these various items I mentioned?
A. Except in so far as you may say the three million would cover it, but I do not intend to include anything for those.
Q. But when you said your computations, assuming six per cent. and assuming this capital, were correct, if 10.89 cents was sufficient for repairs and renewals, you referred, did you not, to our claim to an additon beyond the 10.89 representing reserves or contingent fund?
A. Yes. And beside that taking your claims on cost of operation, on taxes, &c.
Q. But excluding the item of street lamps.
A. It took everything because you did not exclude street lamps ultimately. You simply insisted that these remain in the expense account.

Q. But in computing the operating cost of gas you did ex-
3650 clude it in getting this figure, didn't you?
A. Yes, I did.
Q. And when you take that out of the operating cost of gas and at the same time take a corresponding amount out of receipts the effect is to make the cost of gas appear small by so much?
A. But it does not effect the twenty cents per thousand feet remaining whichever way you do it, or 6 per cent. on $46,500,000 is not affected.
Q. Still my question would be answered in the affirmative: It would make the apparent cost of gas appear smaller by taking that item out?
A. Yes.
Q. You referred again yesterday to the Central Union Company and have stated, if I read your testimony correctly, that instead of one cent which you computed as the difference between the coke at the Central Union and the coke at the Consolidated Coal Gas plants per thousand, it would be 4 cents?
A. Yes. That was my testimony.
Q. And then one cent more for repairs which on consideration you thought would be allowed to the Central Union and that would make five cents?
A. Yes.
Q. So that the gap between the two on your estimate, that is between the Central Union coal gas and the Consolidated coal gas would be lessened by five cents by those two items?
A. Yes, sir.
Q. You stated, or I understood you to state yesterday, that you took out the original one cent per thousand which you computed as difference in coke in getting your figure of 48.63 cents?
A. Yes.

Q. Aren't you mistaken about that?
A. Well, repeat the question again.

(Question repeated.)

A. Yes. I did not take it out.

3651 Q. So you correct that statement, if I understood you correctly previously?

A. Yes.

By Mr. BURR:

Q. That is, it would make it 49——

A. No, that distributed over the entire gas sold, the whole thing would come up to about fifty cents now instead of 48.63 as per table 17. Now, all my changes bring that to about fifty cents.

Q. As appears by your statement on page 3471?

A. Yes, that is what I stated on page 3471 of the redirect testimony herein.

By Mr. MATHEWSON:

Q. In computing the value of the coke disposed of by the 14th Street plant of the Consolidated Company and by the 42d Street plant of the Consolidated did you not take the entire make of gas of those two stations?

A. In computing it per thousand feet, you mean?

Q. Yes.

A. Yes. I think so.

Q. Well, don't you know that a part of the make of those two stations, of the gas sent out of those two stations, was oil gas and not coal gas at all?

A. It was enriched coal gas.

Q. But we are getting at the coal gas product. Don't you see that you ought to have divided by the amount of the coal gas and not by the amount of the coal and water gas combined?

A. No, because I did this. I took the exact figures of sales of coke, the value of residuals, and found how much more it would amount to at the prices prevailing with the Central Union and applied that to the receipts from residuals, showing how much they would rise. I took the totals in dollars, whatever it was.

3652 Q. But you reduced it in dealing with it to the product per thousand feet of gas at the 14th and 42d Street and Central Union stations?

A. Later.

Q. And it would not be the fair comparison to divide by the Central Union gas which was all coal gas and to divide by the aggregate volume of the coal and oil gas at the 14th and 42d Street stations of the Consolidated, would it?

A. Well, I thought it would. I deducted, of course——

Q. Don't you see now that it would not?

A. Well, I don't see that, no.

Q. Supposing the oil gas at 14th Street was not as much in volume as the coal gas, do you still mean in computing the results as you

did and comparing them it would have been proper to have divided by the aggregate output of the 14th Street plant, half of which was oil gas?

A. I don't think half of it was oil gas.

Q. No, but if it had been. I am getting you to the principle of the thing—it would have made the quotient just half as great, when you are dealing with coke and the results of operation of the coal gas plant and comparing that with another coal gas plant of another company?

A. Well, there was oil used at the Central Union, although not so much.

Q. Yes, there was a certain amount of oil gas in that but nowhere so large a proportion of oil gas at 14th or 42d Streets, as is obvious?

A. No.

Q. Now, don't you see in order to get a fair result you would have to exclude the oil gas from all the stations unless the oil gas amounted to the same proportion at each station in getting the comparative results of the coal gas station?

A. Well, I am not sure what allowance should be made on that question.

Q. Well, now let us go a step further. Here is a very simple proposition and let us see if you did not make an error even as it stood. You took if I understand in yesterday's testimony
3653 $152,045.32 as the Central Union receipts from coke, did you not?

A. Yes. I had omitted two thousand odd dollars.

Q. Yes. So that you were in error there as appears on page 214 of the Central Union, and the total should be, should it not, $154,-817.63?

A. Yes. I have since made that computation.

Q. Now, you said that you took out cartage?

A. Yes.

Q. The cartage deducted by you was $20,935.91, leaving net $131,109.41, whereas the remainder should be, should it not, $133,-881.72?

A. There would be a difference of two thousand odd dollars.

Q. Well, will you look at that computation and see if that is not correct?

A. I stated in my testimony that a correction of $2,000 should be made.

Q. Yes, and I am now indicating it?

A. I have made it here only I work- it out from the start on the basis of 100 pounds of coke and found that it changed——

Q. No matter about that. I am just getting at the result. We have now $133,881.72 as the results of the Central Union Coke Company, deducting cartage. Now, will you look at your testimony of yesterday and at page 2118 of the case before the Gas Commission, the two, and see if the results on the 14th Street Company deducting cartage were not $143,706.03 for coke?

A. I have that here, yes. I have it .08, that is all the difference.

Q. That is all right. And those figures as to the Central Union

and as to the Consolidated at its 14th Street plant are figures obtained by taking the figures at which the coke delivered from the coal gas to the water gas plants was delivered, and at which the coke sold in the market was sold in the market, taking exact figures?

A. Yes.

Q. Now, if you take the Central Union net receipts of $133,881.72 and divide that by the Central Union coal gas make which
3654 appears at page 132 of the Central Union report to be 670,-518,000 cubic feet, what would be the result per thousand cubic feet—19.97 cents, wouldn't it?

A. Yes. It is about that.

Q. That then is the amount realized by the Central Union according to the figures for its coke per thousand feet made. Now, will you divide the amount realized by the 14th Street plant, $143,706.03, by the amount of coal gas made at 14th Street, which is 1,360,-284,000 feet, as appears on page 2415 of the record before the Gas Commission?

A. About 10.57.

Q. 10.56 and a fraction?

A. Yes.

Q. And you stated yesterday there was very little difference as you figured it out, between the price at which coke was sold in the market and the price at which it was transferred from the coal to the water gas plants, we have taken the exact figures in each instance, and we find that the Central Union realized 19.97 cents per thousand and the Consolidated 10.57 per thousand or 9.40 cents less than the Central Union, do we not?

A. 9.40 cents.

Q. And that, compared with 9.97 as you computed it the other day, if we leave out of account cartage and take gross receipts——

A. Yes, but as I stated in my testimony, that is partly accounted for by other factors than the difference in price. The number of pounds of coke per thousand feet of gas at the 14th Street station is something I want to give you in a minute.

Q. But I don't care anything about the pounds of coke. I am finding out how much we received for coke per thousand feet of make, which is the basis that you took in comparing the results of these two plants, the 14th and 42d Streets with the Central Union plants.

A. No. I claimed that the fact that you get only 953 pounds for sale at 14th Street—95 pounds I think it is, of coke for sale
3655 per thousand feet of gas at 14th Street, while you get over 124 pounds at The Central Union, confirms what Mr. George E. Wood said as to the greater yield of coke.

Q. You said that the other day and that is quite another proposition, as to what your reason is. The point is that the difference between the Consolidated 14th Street plant, and the Central Union plant, so far as coal gas is concerned, is 9.4 cents per thousand feet of make in receipts for coke, isn't it?

A. There is that difference in receipts for coke, yes.

Q. Now you have spoken as to Mr. George E. Wood's testimony.

Do you know what the cost of regenerative furnaces is, such as those used at the Central Union, as compared with those used at 42d Street and 14th Street?

A. No. I have seen such figures, but I don't remember them now.

Q. You know they cost several times more, generally speaking?

A. They cost more.

Q. And you understand that if the Central Union has a more expensive plant that while there may be a production of gas a trifle cheaper, on the other hand it will have to pay more return on capital and probably pay more in repairs?

A. There will be some more. It is not considered——

Q. And you have not weighed those things, and you are not a gas expert so that you can weigh those things, are you?

A. But I am sufficiently familiar with the business to know that it is considered everywhere a good policy in a plant of that size to have such coal charging machinery and such retorts?

Q. Do you mean to say that if in 42d Street we have not room for coal charging machinery that in the face of the statement of Doctor Humphreys and Mr. Bradley and Mr. Mayer that it would be economy to throw out our present retorts, destroy that amount of capital, and put in regenerative retorts in their places, and purchase new land so as to have more space—that that would be
3656 an economical thing to do?

A. I say that an up-to-date plant would have those economies.

Q. I am taking these plants as they now stand. Would you be prepared to rebut that statement, that it would be uneconomical in our present situation to do that thing.

Mr. BURR: The facts speak for themselves, don't they?

Mr. MATHEWSON: I think they do.

A. I have not had an opportunity to visit the plants yet.

Q. And you are not a gas expert, either in machinery, operation or construction?

A. Why, I have testified on that subject.

Redirect-examination by Mr. BURR:

Q. Will you explain, Professor, a little further the proposition just presented to you regarding the difference in the coke between the Central Union and the Consolidated and these various stations?

A. The fact is that they get one-third more coke per thousand feet of gas they sell at the Central Union than they do at 14th Street, and that is absolutely independent of the price of coke. That is a result of engineering conditions. The fact that they have at the Central Union a plant which yields more coke, does not use up so much coke in making the gas and leaves more for sale or for use in the water gas part of the plant, which is the same thing, that is an important point to be taken into consideration. What I was saying was in my direct testimony that the plant would produce double, as I said, if it had an up-to-date plant. The Company should, if it had an up-to-date plant, do as well as the Central Union

or the Standard or the New Amsterdam, and the difference
3657 in the price of coke does not dispute that except to modify it, as I have already modified it in my statement that of the eleven and one-half cents difference, there is about five cents of it due to repairs on that machinery and to the difference in the price of coke.

By Mr. MATHEWSON:

Q. But the point is instead of there being one cent difference per thousand feet of make, in what is received for coke sold, there is 9.4 when you come to take accurate dat
A. But there wouldn't be that—
Q. But is there not?

Mr. BURR: He proceeded to explain for you the reason why that does not make the effect that you claim it does. Now you are going over the ground again that you have already gone over.

Q. Is there not that difference per thousand feet of make in the price received for their coke?
A. Yes, I think so, but half of it is due to the difference in the yield of coke. The other half, roughly, to the difference in price.

By Mr. BURR:

Q. Just a moment ago Mr. Mathewson asked you regarding the street lamp item, but that being taken out on Exhibit 94, being a statement of operations, makes the apparent cost of gas smaller, and it is equally true that street lamps being retained in that makes the apparent cost of gas larger, does it not?
A. Yes, sir, certainly.
Q. Do you know, as a matter of fact, anything of your own knowledge about the contract with the Dominion Coal Company and the other company that you referred to?
3658 A. Not a thing. I merely read in *Moody's Manual* that there was a contract for supplying coal from that mine.
Q. So when Mr. Mathewson points his finger at you and says "don't you know?" and you say "I suppose," you mean you have no actual knowledge on the subject?
A. Certainly. No testimony on the subject came out in the Massachusetts gas hearing.
Q. Now, with regard to distribution, you were asked to compare the items of distribution as they appeared in Field's Analysis to show their bearing on the computation which you made as to distribution. Does the situation presented by Mr. Mathewson in that regard embrace the same items which you embraced in your item about distribution?
A. No.
Q. And was it therefore a fair comparison?
A. It was not.
Q. Why not?
A. Because it used the term "distribution" in the sense in which it is used in the English companies to include one of the expenses that I call distribution, and a lot of repairs on distribution system,

whereas I use the word "distribution" to cover everything except repairs and taxation after the gas left the holder. Now, I do not dispute the propriety of the English terminology. I simply for convenience used a term to cover their 9.45 cents and that might have been perhaps just as properly called "distribution and management expenses."

Q. Take Field's Analysis which was handed to you by Mr. Mathewson and point out the items which were embraced in his theory and those which were left out in yours.

3659 By Mr. MATHEWSON:

Q. Your 9.45 did include management as well as usual distribution expenses outside of repairs, didn't it, as those terms are used in England and in Field's Analysis?

A. It did. And I would state that I was showing that as the city increased in size in England the same year there was no gap in the prices, that as they proceeded to larger and larger groups those distribution expenses, using the term now in its broadest sense, declined per thousand feet. I have not with me, although I have them home, all of Field's Analyses for the last twenty years to show whether it is a mistake as to London, but I have observed this that in comparing one year, 1901 with 1905, there may have been exceptional conditions. And I did notice this, there was no large increase in sales for three companies combined in London and——

Q. There ought to have been because the price was reduced.

Mr. BURR: Won't you let him proceed? I thought you had finished.

The WITNESS: While in the case of the suburban companies there was a much larger increase as brought out this morning, and in the suburban companies there was not such a marked change in the distribution cost as in the centre of the city with the three big companies where the sales remained about the same as between 1900 and 1901 and 1905, but unfortunately the total sales were not given this morning for the three London companies combined, and if that 1901 report is there I would like to read into the evidence the total sales of the three companies for the year 1901 and then for the year 1905. The total sales for the year 1901 of these three big London companies, namely,—there are only two big ones really, the
3660 Gaslight and the South Metropolitan, and the smaller one known as the Commercial. The total sales of those three companies in 1901 was 34,826,093,000 feet. During 1905, it was 36,147,679,000 feet or an increase of only 1,700,000,000 feet, which would be about 5½ per cent. There was not such a large increase as to bring out any important facts on distribution I should think.

Q. Now may I ask a question. How does that happen when there was a very heavy reduction in the price of gas from 1901 to 1905 in these metropolitan companies? There ought to have been an enormous increase, oughtn't there, to use an expression of yours in Chicago?

A. I have not even before me the change in the price of gas in London.

Q. You can see it by Field's Analysis before you?

A. Yes, but I have not looked it up and have not looked into the history of the London companies the last few years. This is one of the things I have not been able to tackle although it is part of the work I have got to tackle pretty soon, but not in connection with this case.

Q. In this 1905 Field's Analysis, page 15, it appears that the price by the Gaslight Company has been reduced something like six or eight per cent.—yes, more than that, about twelve, and the Commercial has been reduced——

A. They declined, taking the American equivalent of two cents to a penny, from 71.4 cents to 59.8 on the average for the three Metropolitan companies.

Q. That is a pretty heavy reduction and there ought to have been an enormous increase in sales. How does it happen there was not? Is it because the consumption has become so nearly saturated that they used something like 8,000 cubic feet per capita and that there was not room for much more increase?

A. Let me have the other volume, Field's Analysis for 1901, for a minute.

3661 (Book handed to witness.)

The WITNESS: There was an enormous increase.

Q. There was an actual decrease in sales of the Gaslight Company, which made a large reduction?

A. There was a- increase of sales in the suburban companies of London.

Q. But I am talking about the Metropolitan companies?

A. Yes, but that has to be taken into account because the growth had been in the suburbs.

Q. I did not ask you anything about the suburbs.

A. You did this morning.

Q. I did not now. The morning is a long way back. I call your attention to the fact that in London they used, as has been testified, about 8,000 feet per capita, and ask you how you explain the failure to increase in view of the reduction by the three Metropolitan companies except upon the theory that they were pretty nearly saturated by gas already per capita.

A. I don't think that is the explanation at all, but I don't know what it is. I have no doubt there is an explanation that is very satisfactory, but I have not looked into it at all.

Q. You observe that the London Gaslight Company, which is the largest of all, shows an actual decrease in sales for those five years in spite of this decrease in price?

A. London may be an exception this year.

Q. You don't think the decrease in sales was due to the decrease in price, do you, by the London Gaslight Company?

A. I know there has been an increase in Sheffield, Glasgow, and other cities, and a large increase. There has been an exceptional difference in London and I don't know what it is.

Mr. MATHEWSON: It is saturated, isn't it.

Mr. BURR: Is that your claim, because of the point of
3662 saturation having been arirved at in London?

Mr. MATHEWSON: The Professor is on the stand. I am not.

The WITNESS: There is no such thing as a point of saturation in that matter.

By Mr. BURR:

Q. While you are here let me call your attention to the illuminating power as called for by these companies that you referred to this morning, as the same appears on page 2 of Field's Analysis, and the amount that is prescribed and the amount that is actually supplied in candle-power. I will read it:

	Gas Light. Prescribed.	Supplied.
Metropolitan (City of London)	16 Sperm Candles,	16.48
Commercial	14 Sperm Candles,	14.90
South Metropolitan	14 Sperm Candles,	14.60

You were asked with regard to the candle-power on your recross-examination by Mr. Mathewson. Do you desire to make any statement in that regard?

A. I do.

Q. Please proceed and make it.

A. The question was asked whether I knew as to the extent to which the Consolidated was below 20 candle-power during the last six months of 1904. I find that of all their stations there were only three days in which they were below 20 and that was only, in each case, in one station and that was only a trifle below, less than a candle if I recall aright. Now, as to the year 1905, the last six months of the year 1905, I was asked whether I knew as to whether the New Amsterdam and Standard were below the required amount in test.

3663 Mr. MATHEWSON: No, I asked you about the Consolidated.

The WITNESS (continuing): Well about the New Amsterdam and the Standard. I find they were not below the requirement of 22 candle-power and I find that not only is that the case, but I have marked the times when they were even below 23 candle-power, and I find that there was no time during July, August and September. In October there was one test in which it was 22.59 in the New Amsterdam, on October 26th; and 22.92 October 31st.

In November: On November 3rd one test of the Standard 22.86.

December: December 4th, Standard, 22.92; December 5th, New Amsterdam, 22.22, Standard 22.06. On the 6th, Standard 22.42; and that was all. Those are the only cases in which it even went below 23—in the cases of the New Amsterdam and Standard.

Now, as to the Consolidated during the last six months of 1905, I was asked first if there was any case in which they fell below 22. There was one day, September 26th, in which the Station No. 3, was 21.53. That was the only time in which it fell below 22. Now I have noted the days in which the Consolidated was below 22½ in any one station.

Q. Why not below 23 as you did with the New Amsterdam?

A. I will give that in a minute. First below 22½. One station, August 18th, when it was 22.10; and two stations, August 28th; one station, September 2nd, 14th, 26th and 30th; two on October 7th, one on October 9th, one on October 21st, one on October 25th. On November 22d, one; on December 5, three; on December 6, two; on December 7th, one; on December 8th, one; on December 26th, one.

It was below 22.4 however, on only a portion of those days.

3664 Now, as to its being below 23. During July it was not below 23 at all, when the average of the month was 25.10. I think on the last day of the month, one station was 22.94.

Now, in August, below 23, one station on August 1st, 22.86; August 14th, 22.63; August 16th—this is only one station in each case—22.7; August 17th, 22.68; August 18th, 22.10; August 19th—two stations—22.90 each; August 21st, one station, 22.72;

August 28th, 22.06; 22.12; 22.84.
August 29th, 22.33; 22.26; 22.65.
September 2d, 22.29—one station.
September 5th, 22.93.
September 14th, 22.06; 22.66; 22.50.
September 15th, 22.66; 22.04.
September 16th, 22.36.
September 18th, 22.50.
September 20th, 22.65; 22.84; 22.69.
September 23, 22.38.
September 25, 22.12.
September 26th, three stations were below 23—22.70; 22.72; 21.53.
September 27th, 22.88; 22.82; 22.84.
September 28th, one station, 22.50.
September 29th, one station, 22.70.
September 30th, one station, 22.49.

The low station seemed to be station 3 in most all those cases where there was only one.

October 2d, 22.66.
October 4th, 22.91.
October 6th, 22.64.
October 7th, 22.35; 22.86; 22.05.
October 9th, 22.81; 22.05.
October 10th, 22.78; 22.50.
October 17th, 22.44.
October 21st, 21.37; 22.80; 22.90.
October 23d, 22.96; 22.52.
3665 October 25th, 22.30.
October 28th, 22.80.
October 31st, 22.68.
November 1st, 22.56; 22.60.
November 6th, 22.75; 22.93.
November 8th, 22.88.
November 9th, 22.74.
November 10th, 22.61; 22.68.
November 11th, 22.94.

November 17th, 22.50; 22.95.
November 20th, 22.40; 22.74.
November 21st, 22.72; 22.56.
November 22d, 22.70.
November 25th, 22.96.
December 4th, 22.56.
December 5th, 22.46; 22.16; 22.12.
December 6th, all five stations, 22.56; 22.95; 22; 22.71; 22.03.
December 7th, 22.43.
December 8, 22.48.
December 13, 22.58.
December 15, 22.76.
December 16th, 22.88, 22.98.
December 19th, 22.92.
December 23rd, 22.70.
December 26th, 22.42.
December 27th, 22.60, 22.72.

In other words, it will be observed that they mostly came in October.

Q. What did?

A. Below 23, did not come in the summer months, neither did they come so much in December. They came more in September and October and two or three days in November. The fifth and sixth of December a good many below 23; I gave in each case the number of stations.

3666 Q. And now, have you finished the tabulation of the cost of the plant including the real estate as appears, as you contend, from Yalden's statement?

A. No, I have not finished that.

Mr. BURR: When you have finished that I will ask leave to submit it, as I stated this morning.

By Mr. MATHEWSON:

Q. The period which you took did not include the coldest part of the winter, that is, January, February and March, did it?

A. No.

Q. And you know that last winter, do you not, 1905-6, was one of the most open and warm winters on record?

A. It was warmer than the average, I believe.

By Mr. BURR:

Q. Do you know?

A. Well, I have that impression that it was warmer than the average. I don't know about it making any record in the matter.

By Mr. MATHEWSON:

Q. A very warm winter, wasn't it, as winters go, in your experience?

A. I can only go as far as to say that I think it was warmer than the average.

At 4:30 o'clock P. M. adjourned to October 31st, 1906, at 10:30 A. M.

Last Exhibits:

Complainant's, 256.
State's, W.
City's, 61.

3667 UNITED STATES OF AMERICA,
Southern District of New York, ss:

I, John A. Shields, Clerk of the Circuit Court of the United States of America, for the Southern District of New York, in the Second Circuit, do hereby Certify that the foregoing (Vol. 5) pages, numbered from 2953 to 3666 inclusive contain a true and complete transcript of the record and proceedings had in said Court, in the cause entitled Consolidated Gas Company, Complainant, Appellee, against Julius M. Mayer, as Attorney General, *et al.*, Defendants-Appellants, as the same remain of record and on file in my office (Vol. 5)

In Testimony Whereof, I have caused the seal of the said Court to be hereunto affixed, at the City of New York, in the Southern District of New York, in the Second Circuit, this 15th day of May, in the year of our Lord One Thousand Nine Hundred and eight and of the Independence of the said United States the One Hundred and thirty-second.

[Seal of U. S. Circuit Court, South Dist. New York.]

JNO. A. SHIELDS, *Clerk.*

[Endorsed:] United States Circuit Court of Appeals for the Second Circuit. —— —— *vs.* —— ——. Transcript of Record from the Circuit Court of the United States for the Southern District of New York.

3667½ Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, WEDNESDAY, *October* 31, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Burr and Mr. Kirby.

3668 Mr. BURR: I call the attention of the Master to the fact that at the time Dr. Marks was withdrawn from the stand it was with the view of his subsequently examining as an expert the plants of the company with a view to testifying as to their value. Matters have so shaped themselves that Dr. Marks has confined himself to directing the examination now proceeding of the books of the company, while other engineers, having examined the plants, will testify as to their value. Mr. Mathewson at the close of his cross-examination, stated: "Now I have not cross-examined Dr. Marks on the cost of gas and on the matter of value of plant and its various items, which I understood I might not take up until he has completed his evidence on those subjects, and there may be a few more questions on those other features that I have not covered, but they will not be extensive." So that Dr. Marks is here this morning for the purpose of having Mr. Mathewson complete his cross-examination. Of course, as the result of the report of the engineers, Dr. Marks may have some other testimony as to the facts brought out by that examination.

Mr. MATHEWSON: And how about the cost of gas?

Mr. BURR: He has given his testimony on the cost of gas.

Mr. MATHEWSON: And does not intend to give any further testimony on that subject?

Mr. BURR: No, not on that subject. I say we may make whatever comments we desire to make on the facts, both as they are revealed by the report of the accountants and of the engineers.

Mr. MATHEWSON: I understood I was not to cross-examine him until this examination had been completed of the books, and he had testified as to the cost of gas, as he might argue from what was thus ascertained.

3669 That was the only reason for the adjournment, so far as that was concerned, on the cost of gas.

Mr. BURR: The idea was that he was to testify as an expert as to the value of the property. Now he is ready to be cross-examined as to

the cost of gas and along his direct-examination as far as you may think proper.

The MASTER: Manifestly he cannot be cross-examined to a finish now and then recalled on another occasion and then further examined in chief.

Mr. BURR: No, but all the witnesses who have testified as experts for the city, so far as the cost of gas and structural value is concerned, have always made the reservation that the bringing in of the results of these examination- may necessitate them either modifying their views or testifying further in that regard.

Mr. MATHEWSON: If I cross-examine now and continue on that subject, I certainly shall expect anything presented hereafter to be new matter by a recalled witness, and not compel me to retraverse the ground, Mr. Master.

The MASTER: That is right.

WILLIAM D. MARKS resumed.

Cross-examination by Mr. MATHEWSON continued:

Q. I will first take up your computations on the subject of the cost of gas (page 2301). You take the total of 74.81 cents shown on Exhibit 94 as total expenses of the company in the production and distribution of gas and make therefrom certain deductions. In the first place, to reach the operating cost of gas you deduct fixed charges, 7.32 cents, do you not?

A. I do.

3670 Q. You find no conflict between you on the one hand and Messrs. Addicks and Humphreys on the other in that regard, do you?

A. I think they both deducted it.

Q. Now you also deduct the item of street lamps which has been shown to be the expenditure in the maintenance of the street lamps that the company pays out in excess of certain receipts. That, you understand, is an expenditure that the company makes preliminary to its delivering bills for the gas, that it furnishes to the city and collecting them, do you not?

A. I do.

Q. And it makes no difference in effect whether you include this in the operating cost of gas and also include it in receipts, or whether you deduct it from the operating cost of gas as you deduct a similar amount from receipts in computing the net result to the company?

A. I have had quite a number of street-lighting contracts. Would you allow me to explain just how I have been in the habit of handling those accounts?

Q. No, I do not care so much about that, Doctor, but if you will just give me answers to my questions I think we will get through much more rapidly.

A. It makes a good deal of difference.

Q. Well, let us see if it does. If you include in the operating cost of gas $289,000 of street lamp expenditure for maintenance, then you have a corresponding receipt, have you not, on the other hand, when you come to consider the receipts of the company?

A. If you have received the money.

Q. Yes, if you have received the money. Well, you know in the present case the money is charged, but not yet paid to the company?

A. I don't know. I have not proceeded sufficiently far in the examination of the books to ascertain.

3671 Q. You observed from the testimony that the company credited itself in receipts for all the amounts that it has charged to the city exactly as though they had been received. Did you not observe that in your reading of the testimony?

A. I have noticed it in some instances. Of course, I cannot state as to the fact.

Q. If that be a true statement, then the company would have a receipt on the other hand to balance this expenditure for street lamps, would it not?

A. On the books.

Q. Yes. And on the other hand, if you deducted street lamp expenditure from operating cost of gas, you must at the same time deduct a corresponding amount from the receipts on the other side of the ledger, must you not?

A. That would not be good bookkeeping. You might do that.

Q. Well, however you treat it, when you come to take the difference between expenditures and receipts and find what is remaining for dividends and interest, the result is the same, whichever way you treated it, whether you included the expenditures for maintenance of gas lamps in expenditures and included a similar amount in receipts, or whether you excluded that amount both from receipts and expenditures, there would be no difference in the net, would there?

A. You could add any amount, large or small, to the credit and debit sides, and the difference between the two would be the same.

Q. Have you read the testimony of Professor Bemis on that subject?

A. No. You will pardon me for saying that I am entirely in accord with Professor Bemis, but my point of view as a constructive engineer would prevent me from undertaking a discussion of the subject after a similar method.

3672 Q. Now, let us take repairs to gas stoves. You have excluded in addition to the items fixed charges and street lamps, being 7.32 and 2.18 cents, respectively, the further item of .42 on account of repairs to gas stoves. On what theory do you exclude those?

A. Referring *from* item 47, on page 2301 to page 2303, Exhibit 224, page 759, we find the gas stoves rent for the calendar year to be $122,322.60; and referring to item 47, Exhibit 94, repairs to gas stoves, we find the expense to be $55,954.35. The difference between these is $66,368.25, or one-half a cent per thousand cubic feet.

Q. Well, you have got a little ahead of me, Professor; you will observe that you deduct .42, being the amount of repairs for gas stoves 47 in Exhibit 94?

A. Yes.

Q. Now, I want to know why you deduct repairs to gas stoves in reaching the operating cost of gas?

A. In taking up the cost of gas I took it first according to the

usual method, which individually I should adopt, of rejecting independent accounts which could be closed at the end of the year by the direct transfer of balance to profit and loss account.

Q. Supposing the repairs to gas stoves had exceeded the amounts received for stove rent, or supposing there had been no stove rents, as there are no stove rents in the case of a great many companies, wouldn't you include repairs to those gas stoves, the same as repairs to any other consumer's apparatus, in the operating cost of gas?

A. No.

Q. Why not?

A. I would regard and set apart the gas stove business as something which could better be transacted by a plumber's department attached to the concern.

Q. Well, it would still be a part of the concern if it was a plumber's department attached to the concern, and its receipts and disbursements would be part of the business of the company, wouldn't they?

A. They would, if the capital was furnished by the com-
3673 pany, but it is an account which can be closed, and would be closed by me, by a direct transfer to profit and loss account at the end of the year.

Q. Well, however it may be treated from a bookkeeping standpoint, assuming there were no gas stoves rented by this company at all, and it occupied the position of other companies which do not rent gas stoves, would you not say then that the expenditures that the company made in caring for the apparatus of the consumer would be a proper expenditure of the company, the same as the expenditure of the company in taking care of the consumers' tips in ordinary burners?

A. Personally, I should not, but I would refer the matter to the Board of Directors for instructions on that subject.

Q. Well, as a matter of fact, the company, and all the companies you know, expend certain moneys in repairs of the burners of the consumers, and in repairs of the burners of gas stoves, for the purpose of encouraging the consumption of gas by the consumer?

A. Any wise company would do that.

Q. Then it is a fair thing to do that, of course, if a wise company would do it?

A. I am referring to the gas tips at the burners on stoves. Then, in addition to that, you know that the English companies, at least—I may be wrong—I think take the result of their stove business, whichever way it may go, and introduce it into the annual results.

Q. Well, we are coming to that later. And the result might be reached if they deducted the stove rent, but I have not got to that point. I am assuming there was no stove rent to deduct. I am asking you whether the expenditure for repairs of the burners on gas stoves in order to encourage the consumption of gas would not be just as appropriate an expenditure as the repairs of the burner on the ordinary flame in a consumer's house?

3674 A. In the case of the gas tips, which I presume you mean, for jets?

Q. Yes?

By Mr. BURR:

Q. On the gas fixtures?

A. On the gas fixtures it is an ordinary expenditure of quite a small amount, sufficiently inconsiderable to warrant a manager in going ahead without making it a serious matter of discussion before a Board of Directors. In the case of gas stoves I should say that the matter of gas stoves should be decided authoritatively.

By Mr. MATHEWSON:

Q. I am assuming you are the whole board of directors and that you have full power to make a decision, or that the power has been delegated to you. Would it not be true, in that case, that any reasonable expenditures of the company for taking care of the burners of the consumer in his gas stove you would consider a proper charge in your operating expenses just as much as expenditures made for taking care of his tips in the ordinary burners? Putting it up to you?

A. Putting it as an entirely personal matter, Mr. Mathewson, I come here with an absolutely open mind and desire to be entirely frank.

Q. I am proceeding on that presumption, Professor.

A. Yes, and I wish to be as brief as possible, too. It seems to me that the establishment of a stove department, connected with which would be proper inspectors, and the operation of it with a view to giving satisfaction and selling as much gas as possible, with a desire to come somewhere near even at the end of the year, is an entirely proper action on the part of the English companies.

3675 Q. Well, would it not be a proper action on the part of the American companies, then, including particularly the Consolidated Gas Company of New York?

A. I could be much more positive if I had not heard the hardest sort of arguments on both sides in actual practice, and while personally I should advocate what I have just stated I would not insist upon it with a board that was opposed to it.

Q. Don't you know that those repairs are included as part of the operating expenses in the form of report required by the Massachusetts Gas Commission and also by the New York Gas Commission?

A. I know it is put in.

Q. And you lay great stress upon the English companies' practice and cited Field's Analysis?

A. Yes.

Q. Stating you approved their methods? Now, won't you look at Field's Analysis for 1905 and see whether "stove repairs" is not included under the distribution expenses in English companies?

A. Pardon me, before I answer this, for saying I used the English method for the purpose of entirely avoiding any imputation of a theory on my part, accepting their methods not because I approved or disapproved of them, but because they were precedents established by years of usage, and on page 2303 of my testimony I fully stated the fact that the results of the gas stove business under the English methods were introduced into the cost of gas and showed the same in my segregation.

Q. I am coming to that later, Professor. I am merely asking you now whether "Stove Repairs" under that exact name are not included in the English system, as shown in Field's Analysis under "distribution charges," which are part of the operating cost of gas?

A. On pages 4-11 the amount of stove repairs per one thousand sold is given by companies.

3676 Q. The simple question is, Doctor, whether the "Stove Repairs" under the English System of accounting, as shown in Field's Analysis, to which you have often referred, are not included as part of the distributing expenses in the operating cost of gas?

A. Distributing charges, you mean?

Q. Yes, call it distributing charges.

A. Yes.

The MASTER: Then the answer is "Yes."

The WITNESS: Yes.

Q. Now you have also deducted interest on consumers' deposits?

A. Yes.

Q. .39——

A. Item 54, page 2301.

Q. Yes; .39 of a cent. You understand that that represents money actually paid, do you not, by the company as interest on consumers' deposits?

A. It is so stated.

Q. Well, as far as your information goes now upon the facts which you had before you when you gave your testimony in chief, that does represent actual payment?

A. Well, I understood that statement to be made by the Consolidated Gas Company.

Q. Yes, exactly. And is there any reason, therefore, why it should not go into the operating cost as well as any other expenditures?

A. It is an account which should be closed by a direct transfer to profit and loss account.

Q. Well, you might transfer taxes or anything else from this Exhibit 94 to Profit and Loss Account and set off against it an amount of receipts sufficient to cancel it, but what I am asking now is whether it is not a proper expense in the manufacture and distribution of gas, and should it not be counted as an expense, however it may be treated in bookkeeping?

A. I should not count it as an expense, because it is not
3677 necessary for the company except for the purpose of insurance against bad debts.

Q. Well, consider bad debts. You have allowed bad debts as part of the proper expenditures or credits in the operating cost of gas, as shown in Exhibit 94, have you not?

A. With the qualification that a proper unavoidable percentage of bad debts is frequently found, and——

Q. Well, you don't find that the amount of bad debts that the Consolidated Gas Company has incurred has been criticised or excluded by any expert either before the Stevens Committee, the Gas Commission, or here so far?

A. I would have to defer an opinion on that point, now.

Q. No, but do you find that they have been excluded by anyone either before the Stevens Committee or the Gas Commission, or here, so far as you have read the testimony, and you said you had read it all?

A. I do not, no.

Q. Well, if you did not take deposits from consumers to secure the company, the probability is that the item of bad debts would be increased?

A. That is the theory.

Q. So that you would increase the item of bad debts, which is chargeable in the cost of gas, if you did not take deposits upon which we had to pay .39 of a cent in interest. Why, therefore, isn't it prudent to take deposits and pay interest on them, amounting to such a small figure, only .39 of a cent, in order to keep down the amount of bad debts which would otherwise be charged in to the operating cost of gas?

A. It is a theory, and has not been proved by tests.

Q. Why shouldn't that amount be included if it does tend to reduce the amount of bad debts?

A. Because it is not proved that it would reduce the amount of debts.

3678 Q. Don't you think it would have that tendency, Professor, in a city like New York? Don't you think the taking of deposits from irresponsible consumers covering a month or two of bills would tend to decrease the amount of bad debts that the company would incur during the year?

A. The theory is that it would wipe them out altogether.

Q. Well, we won't go to that Utopian point, but don't you think it would have a tendency and an effect to reduce the amount of bad debts that the company would otherwise incur?

A. It would appear to me as if it should do so.

Q. Well, now you speak of it as an insurance. You have not included the item 65 in Exhibit 94, the .41 of a cent, have you, in your computations?

Mr. BURR: You mean in the rejected items?

Mr. MATHEWSON: Yes; item 65.

Q. You have not excluded that item of interest?

A. No, I have stated though that it was doubtful, awaiting the result of my investigations.

Q. I am assuming the expenditure was made for insurance, and that it was proper. If that item was made for insurance at that figure, then it is a proper item to be included, isn't it, in the operating cost of gas?

A. That is, for proper insurance.

Q. Yes.

A. It has been so considered as against fire or accidents, or anything of that sort.

Q. And you have not claimed you ought to exclude from the operating cost of gas any proper payment for fire insurance, have you?

A. No, I have not.

Q. Because, if we did not have insurance, and the buildings burned and we had to replace them, then that would mean a considerable charge for replacement which would go finally against consumers of gas. Now, in the same way, if they pay .39 of
3679 a cent per annum on consumers' deposits as an insurance against bad debts—I use your own term insurance in that connection—why isn't that a proper charge—an insurance charge, if you please, which likewise should be credited in the cost of gas?

A. Because you have the use of the money of the consumer, presumably in a much more profitable form, yielding larger profits than the rate of interest that you pay on it, and for that reason it classifies itself with the money raised on bonds, which, according to your own expert, is excluded without any comment whatever.

Q. That is another point. I am merely getting at now the propriety of the expenditure. You do not question the propriety of the expenditure of .39 of a cent per annum for interest on consumers' deposits, do you, in view of the effect of that policy in reducing the amount of bad debts which would otherwise be charged in operating expenses? No matter how it may be taken care of ultimately, I am asking now the question simply?

A. I have always taken the ground that a consumer that required a deposit in order to be safe should not receive any interest, but I understand that in this case the State laws force the payment of interest.

Q. Well, then, in this case you would say that an expenditure of .39 of a cent, however you may treat it in the books, was a fair expenditure as an insurance against an excessive amount of bad debts, wouldn't you?

A. It is a little difficult to make the matter clear, because it is a matter that admits of a good deal of argument both ways.

Q. Well, I am merely asking you for a conclusion.

A. It is difficult in ordinary business to jump at a conclusion in that way.

Q. Assuming that this expenditure of .39 of a cent is made in pursuance of a special law, which requires payment upon con-
3680 sumers' deposits, would you not consider that a wise expenditure as an insurance against an excessive amount of bad debts?

A. After stating that it finds its compensation in the actual use of cash, as do fixed charges, I would say that it is a wise thing to obtain an insurance against unsafe consumers.

Q. Do you know of any company that does not pay interest on its consumers' deposits?

A. Yes, but they are all small ones.

Q. None operating in a large city?

A. None of the size of a metropolitan company.

Q. Now the other item that you deduct from the operating cost of gas is 10 cents contingent expense. You understand that that 10 cents is intended to cover and does cover the actual expenditure

for renewals and replacements as well as contingent or reserve fund, do you not?

A. It is so stated.

Q. And after deducting the 10 cents for contingent expenses, you have added to take its place the actual expenditures for repairs and renewals which you state to be $194,000. Now, as a matter of fact, isn't that $194,000 the amount of the expenditures for replacements and renewals for the nominal year ending October 31, 1905, instead of for the calendar year 1905, which is covered by this Exhibit 94 with which you are dealing?

A. On page 2304 of the testimony, item 67, I state the question. I would like to reserve my reply to that question until the present examination of the accounts is had.

Q. Oh, no, I am not examining you on the present examination of the account. I am examining you on what you testified to respecting these matters.

The MASTER: Repeat the question, Mr. Stenographer.

3681 The STENOGRAPHER (reading): And after deducting the 10 cents for contingent expenses, you have added to take its place the actual expenditures for repairs and renewals which you state to be $194,000. Now, as a matter of fact, isn't that $194,000 the amount of the expenditures for replacements and renewals for the nominal year ending October 31, 1905, instead of for the calendar year 1905, which is covered by this Exhibit 94 with which you are dealing?

A. On page 2304 I so state.

Q. Well, that you state amounts to only 1.45 cents and you substitute that 1.45 cents in place of the 10 cents for renewals and contingent expenses. Now, did you not ascertain in reading the testimony that the actual expenses for renewals and replacements in the calendar year 1905 were 2.12 cents instead of 1.45 cents?

A. On page 2312 of Mr. Carter's testimony, "it would appear as if the actual replacements for the twelve months ending October 31st, 1905, amounting to $194,666.87, or 1.45 cents per thousand cubic feet sold for the calendar year, did not corroborate his statement of 2.12 cents for a calendar year overlapping only about two months." That is reversing the operation, $284,000 approximately. That was brought out very clearly.

Q. Did you read Mr. Carter's testimony after the introduction of Exhibit 94, where he expressly gave the amount of renewals and replacement for the calendar year 1905 and stated it was 2.12 cents, or considerably more than it was for the nominal year?

A. I recall very distinctly Mr. Addicks' use of that.

Q. Mr. Carter's use, I think you mean?

A. No; Mr. Addicks' use, laying more stress on Mr. Ad-

3682 dicks' testimony than that of the others, and for that reason referred to in my own testimony.

Q. Why did you take this $194,000 replacements for the nominal year ending October 31st, 1905, instead of replacements for the calendar year ending December 31st, 1905, when Exhibit 94 covers the calendar year and not the nominal year?

A. Because there have been so many different statements with regard to a contingent account following one another that it was necessary to defer final and accurate statements until the investigation now in progress was completed.

Q. Oh, well, but you were testifying, Professor, at that time from facts and figures which were then before you and you were put on the stand by your own counsel and not by me. Now I want to know, so long as Exhibit 94 with which you are dealing covers the calendar year, you did not take the statement of replacements and renewals for the calendar year which amounted to 2.12 cents instead of renewals and replacements for the nominal year ending October 31st, 1905, which amounted to only 1.45 cents?

A. Because both these amounts appeared to me to be doubtful, and I thought one was as good as the other.

Q. Do you find in the testimony anywhere, and if so please point it out, that the expenditure for renewals and replacements for the calendar year of 1905 were anything else than 2.12 cents per annum?

Mr. BURR: That is not the point, Mr. Mathewson, excuse me.

Mr. MATHEWSON: I think it is.

Mr. BURR: The Doctor has explained that the difference between $194,666.87 and $284,700 for the two months appears to him to have been so singular that he assumed the small amount, as I understand it.

3683 The WITNESS: That's it exactly.

Q. Yes, you assumed a small amount in that case, although the sworn testimony was that was not the correct amount and included that in place of the 10 cent-, did you, Professor?

A. I am sorry to repeat it so often, but I have been forced into the position of doubting the statements made.

The MASTER: That is all right, and you have a right to state it. The question is whether you did in your computation assume it as Mr. Mathewson asks? Whether you did or did not, that is all.

The WITNESS: I assumed it was not probable.

Q. And so in spite of the sworn testimony that the replacements for the calendar year were $284,000 instead of $194,000, and in spite of Mr. Carter's explanation in the testimony as to how that was made up, you still took the nominal year, 1.45 cents, instead of the calendar year, 2.12 cents?

A. I did.

Q. And you think that is a fair thing to do, do you, Professor?

A. It was the best I could do.

Mr. BURR: And the accounting will show whether it is correct or not?

Mr. MATHEWSON: Yes, the accounting will show whether it is correct or not.

Q. Did you take any other items here for the nominal year instead of for the calendar year except this item of renewals and replacements in your computation?

A. I don't recall that I did. There were some cases where it was rather hard to take——

Q. Now, I would like to have you turn to the testimony of Mr. Carter in reference to the items of replacements and renewals $284,000 for the calendar year 1905 and point out what there is
3684 there that causes you to doubt the accuracy of the statement.

A. Can you refer me to the page?

Q. No, I assumed you considered that very carefully before you made such a discrimination as that.

A. I know, but my memory is not a numerical index.

Q. But you must have a memorandum of it, it must have been very carefully considered by you?

A. It was. I confess I have forgotten the page on which Mr. Carter made this statement.

Q. I would have had it for you but I assumed it was merely an oversight and not a deliberate action on your part.

A. On page 624 the question is asked, "What was the actual depreciation for the year 1905, per thousand as shown by the books of the Company? A. 2.12 cents per thousand."

Q. Whose testimony is that?

A. This is Mr. Carter's testimony.

Q. And you found, too, that in the exhibit showing repairs and renewals from 1884 down to date that the statement appears, "renewals, 1905, 2.12 cents," didn't you?

The MASTER: What Exhibit is that?

Mr. MATHEWSON: State's Exhibit L.

Q. As you can figure out from State's Exhibit L it is 2.12 cents, isn't it?

A. This all comes back to me now. The amount of $194,666 was for the yhole wear ending October 31st. The amount of $284,700 was also for that whole year ending December 31st, so that really it was November and December of 1904 against November and December of 1905, and one appeared as good as the other to me, and being in doubt, I used the first stated, which is $194,666.

Q. Why didn't you use the other items for the nominal year such as bad debts and expenditures for insurance, if the items appear as good in one case as in the other, instead of singling this item out?

3685 A. Because the other accounts were not hidden inside of a ten-cent per thousand estimate at the outset.

Q. Do you mean to say they were hidden when Mr. Carter testified before he was turned over for cross-examination at all expressly what the details of the ten-cent item were and explained a part of them were contingent or reserve and a part of them actual expenditure? Do you consider that as hidden?

A. Perhaps "included" would be a better phrase.

Q. Now, as a matter of fact, did you from State's Exhibit L take the pains to compute and find that the renewals for the year 1904 amounted to 3.46 cents and for 1902 3.99 cents, and so on, practically every year greater than even the 2.12 cents which Mr. Carter stated

to be the expenditure for the year 1905? Did you make that computation from that exhibit?

A. I gave most careful attention to the matter of renewals from beginning to end, so far as I was able, for every year since 1884 with the result of being utterly in doubt as to each and every statement.

Q. Didn't you find that in substance every year the expenditures for repairs and renewals exceeded even the 2.12 cents which Mr. Carter stated they were for the year 1905?

A. I cannot say that, but as a matter of fact, to my own judgment they appear to me excessive throughout.

Q. Well, assuming that they were greater than 2.12 cents for pretty nearly every year from 1884 down, you still thought that you ought to reduce them to 1.45 cents, which they appeared to be for the nominal year ending October 31st, 1905?

A. I did.

Q. Now, as to the difference between $284,000 for the calendar year and $194,000 for the nominal year, a difference of only $90,000, might it not very well be that replacements and renewals in two months would be made exceeding that difference in a company the size of the Consolidated?

3686 A. I should much prefer to testify from the facts, which we are trying to find now, but while such a thing was possible, it did not appear regular to me.

Q. Are you able to point out anything in Mr. Carter's testimony, or the testimony of any other witness of the Consolidated Gas Company, which led you to cast reflection on the $284,000 item? I now give you an opportunity to do so, if you can?

A. I explained as fully as I was able my reasons for that selection. I do not think I can add anything to it.

Q. In addition to the items to which I have called your attention, you proceed to deduct certain items appearing at the bottom of page 2301 and the top of page 2302, as to the taxes on income from other companies' securities, and the taxes on dividends in excess of four per cent. on $38,643,590.14 stock invested in securities of other companies. You found that those items were deducted both by Dr. Humphreys and Mr. Addicks, did you not, in their computation?

A. I recall, I think, that they did so.

Q. Now, you differ from them in that you exclude from the operating cost of gas taxes on $41,356,409.86 of the stock of the company that was invested in its gas business. On what theory do you exclude that?

Mr. BURR: That was claimed to be invested in its gas business.

Mr. MATHEWSON: Well, put it that way.

A. This does not read in its gas business. It is invested in gas business.

Q. Well, you understand, don't you, that above is the anount which appears to be invested in securities of other companies, whether gas or electric companies? Didn't you make an examination to ascertain whether that was so or not?

3687 A. I have a memorandum here somewhere.

Q. You took these figures, didn't you, from Complainant's Exhibit 80 as to the amount invested in the gas business and invested in the securities of other companies?

A. No, I did not, but I see this figure, $41,356,409.86, is confirmed in Exhibit 80 as a liability in the form of a stock.

Q. Where did you get the figures to which I have referred?

A. I was trying to hunt it up. I thought I had it in my portfolio here.

Q. You do not recall, do you, Professor?

A. Yes, here it is.

Q. Now, where did you get the figures to which I have referred?

A. The memorandum which I have in my hand shows for 1905, charge to cost of making gas, $965,843.88. The taxes charged on real estate are $179,778.95; on personal property, $88,839; on special franchises, $406,909.23; on mains, pipes, and so forth, private, $14.91; and on the income from securities of other companies——

Q. Income from gas business, $70,538.02?

A. No, you haven't it there. Income from other securities, other companies, $5,257.48; and income from gas business, $70,538.02; taxes on dividends in excess of four per cent. on $38,643,590.14; stock invested in securities, $57,965.39; taxes on $41,356,409.86, stock in gas business, $62,034.61; interest on unpaid taxes $94,-506.29; total, as stated, $965,843.88.

The MASTER: What you have read is just a reproduction of the statement that appears on the foot of page 2301 and 2302?

The WITNESS: Yes.

Q. Now, you included in the operating cost of gas all of the items which appeared on page 3301 and excluded all that appeared on page 2302?

A. Yes.

3688 Q. And it appears that Dr. Humphreys and Mr. Addicks also excluded the first two items on page 2302. Now I asked you on what theory you excluded the taxes on $41,356,409.86, which constitutes the third item on page 2302.

A. On page 2301, you will observe, is segregated the taxes on real estate, the taxes on personal property, the taxes on special franchises, the tax on mains, pipes and so forth, and the taxes on income from gas business. Those are segregated on page 2301 and amount to $746,080.11. On page 2302 I segregated, first of all, taxes on income from other companies' securities——

Q. I see—we all have that before us, and we see the $219,763.77 which is stated on that page.

A. And taxes on dividends in excess of four per cent. on all stocks both the $38,000,000 and the $41,000,000, and interest on unpaid taxes is taken out.

Q. But the $41,356,409.86, so far as any evidence in this case goes, was stock invested in the company's own business and not in securities of other companies. Now I ask you on what theory you ex-

clude from the operating cost of gas the taxes on this $41,356,409.86?

A. Because it appears to be a tax on the profits.

Q. Does it?

A. In excess of four per cent.

Q. Supposing it is a tax on the profits, if it is a tax against the corporation, and the company does not make the laws, why should not the company be entitled to charge in the operating cost of gas the tax so computed?

A. To me it appeared a proper charge to profit and loss and not the cost of making gas.

Q. You understand, don't you, that that is not a tax assessed against individual stockholders and that it is no lien against individual stockholders, and could not be collected from individual stockholders, but is a tax against the corporation?

A. It appears to be paid by the company.

3689 Q. Well, if it is a tax against the corporation, is it not a proper charge in the operating cost of gas?

A. Not all taxes, no.

Q. Is not this tax?

A. It did not appear to be to me.

Q. I will read you the section of the act, being Section 186, I believe, of the Tax Law, which reads as follows: "Franchise tax on waterworks companies, gas companies, electric or steam-heating, lighting and power companies. Every corporation, joint stock company or association formed for supplying water or gas or electricity or steam heat and lighting or power purposes, shall pay to the State for the privilege of exercising its corporate franchises or carrying on its business in such corporate or organized capacity in this State an annual tax, which shall be .5 of one per centum upon its gross earnings, from all sources within this State, and 3 per centum upon the amount of dividends declared or paid in excess of 4 per cent. upon the actual amount of paid-up capital employed by such corporation, joint stock company or association." Now, assuming that this amount of $41,356,409.86 is employed in the gas business and that this tax is a tax to the State for the privilege of the exercise of its franchise by the company, is there any theory upon which that can be excluded fairly from the operating cost of gas?

Mr. BURR: Is not that the very question this Court is going to decide?

A. I can only say in reply to that that it did not appear to me, being a tax on surplus profits over four per cent., to properly belong to the cost of gas, but should be an amount handled in the Profit and Loss Account.

3690 Q. And should be taken out of dividends going to stockholders, is that right?

A. It looked that way to me, yes. It was——

Q. Is your conclusion reached because it is a tax on dividends in excess of four per cent.?

A. Because it appears to be a tax.

Q. In excess of four per cent.?

A. In excess of four per cent., as stated to me.

Q. Take the next item which you exclude from operating cost, interest on unpaid taxes, $94,506.29. You recognize the propriety of a corporation, acting under legal advice, to contest in the interest of its stockholders and consumers taxes which are assessed beyond a valuation that seems to the company fair, do you not?

A. Yes.

Q. And if the company succeeds in such litigation as that and reduces the amount of taxes or keeps taxes low for succeeding years, that reduces the amount of taxes that go into the operating cost of gas, does it not?

A. Yes.

Q. On the other hand, if the company, acting prudently in contesting the taxes, is unsuccessful, and has to pay attorneys' fees and a penalty in the shape of interest on the tax, should not that likewise be charged in the operating cost of gas?

A. Using your own language, for succeeding years, if distributed.

Q. But the interest for the year 1905 is for the year under consideration. Should not that interest, assuming that the tax was prudently contested and under legal advice, be allowed to the company as an operating cost?

A. That is an expense incurred as an adventure under the guidance of counsel, and——

Q. But if the adventure comes out favorably, then it will inure to the consumer, because the taxes chargeable to the operating cost of gas would be lower?

A. Yes, for many years, probably.

3691 Q. Then, if it does not happen to come out successfully, but was undertaken prudently, should not the attorneys' fees which were incurred in contesting that tax be allowed as an operating cost of gas?

A. Not against one year. Divided up.

Q. Your theory is that this $94,000 should be divided over several years?

Mr. BURR: I think the Doctor misconceives the question. The taxes are imposed every year.

Mr. MATHEWSON: I hardly think he does. That is another proposition.

Q. (Question repeated.)

A. If I were dealing with the matter myself I would distribute it over a period during which the gain or less in taxes might properly be expected. Of course, it is a matter that admits of a good deal of discussion.

Q. But you have excluded it entirely in this year, 1905, and have allowed no part of it in the operating cost for the year 1905. You would, then, revise your figures in that regard in some respect, would you not, upon reflection?

A. Instead of charging this amount of $94,506.29 to the cost of making gas, I would have in exactly similar cases of somewhat larger amounts, carried it to suspense account, awaiting the outcome, and

in this present case, not being able to carry it to suspense account, awaiting the outcome of the legal suit, I have temporarily and as an extraordinary expense, thrown it out of the cost of gas.

Q. But if you carry it to suspense account, that means that you must have an allowance in the way of a reserve or contingent fund per thousand feet to take care of your *of* suspense account, so it comes into the operating cost of gas just the same, does it not?

A. The suspense account does not come into the account
3692 of the cost of gas or electricity, or any other manufactured article that is brought out by the corporation or individual manufacturing it.

Q. Does it not, sooner or later?

A. It awaits the proper partition to the various accounts to which it is determined to be charged when the suspense is ended.

Q. However you choose to treat it ultimately, either upon one year or several years, and either through a suspense account or by charging it into the proper accounts, at some time it does get into the operating cost of gas, does it not?

A. Usually into the profit and loss account, and not the cost of gas or other material.

Q. But it gets into the expenditures in making and distributing the cost of gas and the expenditures that you have to make before you deduct, to determine what you have left to pay interest and dividends, does it not?

A. It has to come out of the income before you get through with it.

Q. Exactly. Now we have disposed of these items which you have excluded in your original testimony from the expenditures shown in Exhibit 94. In addition to these figures, you make certain credits further reducing the operating cost of gas. One of them is stove rent, is it not, which is part of the miscellaneous income, $123,322.60?

A. Is that page 2303, near the top?

Q. Yes.

A. Will you allow me an explanation, or——

Q. I think it is quite clear, for you include the repairs as to gas stoves.

A. For the sake of clearness, I would like to explain that the first method of deducing the apparent cost of gas ends on page 2302, and the second method of deducing the cost of gas begins at 2302, at the paragraph referring——

Q. I think it is clear enough. You deduct the amount of stove rent, do you not?

3693 A. I deduct the amount of stove expense from the amount of stove rental reported in Exhibit 224 and I have a balance left of $66,368.25.

Q. I understand. Well, that is exactly the same thing as though you included repairs to gas stoves in the operating cost of gas as is done in England, and then deducted the stove rentals from the operating cost thereunder. It amounts to the same thing precisely, does it not?

A. No, it is a seperate enterprise entirely.

Q. No, no. I am not referring to that feature at all. It amounts

to the same thing so far as dollars and cents go, whether you include repairs to gas stoves in the operating cost of gas and then deduct thereafter your $122,000 of stove rentals, or whether you exclude repairs to gas stoves from the operating cost of gas in the first instance, and then only deduct the difference between the repairs and stove rentals, which is your $66,368.25; it amounts to precisely the same thing, does it not?

A. It amounts to adding——

Q. Does it not amount to the same thing so far as the outcome is concerned?

A. No, I can explain it in a very few words to you.

Mr. BURR: The answer is no.

Q. Well, your answer is no?

A. Yes.

Q. Very good, I am willing to accept that as your answer.

A. The difficulty is that you cannot transact ordinary business on the basis of answering yes or no. You can do some things that way, but not the transaction of ordinary business.

Q. Well, if you will explain how it makes any difference in dollars and cents at the end, I will be glad to have you do it, because I cannot see it.

A. It makes a difference in the cost of gas.

3694 Q. Does it make any difference in the balance left as distribution for dividends or interest, whichever way you treat it?

A. Practically none at all.

Q. Does it make a cent's worth of difference?

A. I say practically none at all.

Q. Won't you eliminate the word practically and tell me whether it makes any difference in dollars and cents when you come to a discussion of the profits you have left for distribution?

A. Do you mean the balance will be the same?

Q. I do.

A. The balance will be the same, but the two quantities from which the balance is derived will be different.

Q. Now, it appears that from the operating cost of gas, while you deduct the repairs to gas stoves which are .42 cents you do not deduct the repairs to meters which amount to more than three times as much, or 1.3 cents, as shown in Exhibit 94. If you take one from the operating cost of gas why should you not take the other from the operating cost of gas?

A. Referring to what page?

Q. 2339, item 50 of your segregation.

A. On page 2339, item 50, repairs to meters, $172,925.52; per thousand, 1.31 cents.

Q. Well, I have already stated that.

A. In this segregation I have not used any opinion of my own. I have simply followed the established English method as closely as I could.

Q. But have you, Professor, because we h[illegible] shown that the established English method is to include stove [illegible]airs as part of the distributing expense, which is a part of the operating cost of gas and

you have done directly contrary in your computation as to stove repairs.

A. I have included the rent and repairs both by deducting one from the other.

Q. But the English method includes stove repairs, does it not, as part of the operating cost of gas which you seem to lay great stress on.

3695 A. As I understand the English method—and I may find that I can be corrected—what they call stove repairs is the difference between the income and the outgo, the rental.

Q. If, then, they include something for stove repairs and it is such a difference, it must be that the receipts for stove rentals are less than the expenditures for stove repairs, must it not, else there would not be any balance to include as an expense?

A. I understand it is a settled policy to come as near as possible even, on the stove business with the English companies, submitting if necessary to a slight loss in order to increase the output of gas. On that point I am not as well informed as I might be, not having lived in England.

Q. But you have told us what the English practice was and that you were following it and I want you to follow it consistently if at all.

A. I would be delighted to do so.

Q. And not mix us up. Won't you look at page 4 of Field's Analysis and see whether you do not find, as we found before, stove repairs under distribution charges?

A. Yes.

Q. Now, don't you find on a previous page, page 3, as a separate item, stove rentals under income?

Mr. BURR: It does not say under income, but stove rental is there.

Mr. MATHEWSON: Those pages cover income in Field's Analysis, you will see. That is the way it is arranged.

Q. That is a simple question. Let us have an answer to it.

A. I find stove rentals mentioned there, but I am looking further for a matter which I looked up some time ago showing their treatment of these amounts at the end.

Q. (Question repeated).

A. My answer is, I do, and I am looking further for the

3696 method of summation used in the case of net gas rentals, meter rentals, stove rentals, rents receivable and miscellaneous receipts.

Q. Well, now on page 3, in connection with the statement of accounts by the British companies, we find in the first column, net gas rental, which means the average price received for gas, does it not?

A. Gas rental means price.

Q. Then, in addition to that, we have meter rentals as another column?

A. Yes.

Q. And as a third column we have stove rentals, haven't we?

A. Yes.

Q. Then in a fourth column we have rents receivable and miscellaneous receipts?

A. Yes.

Q. So it is a fact, is it not, that, according to Field's Analysis, which you have quoted, the accounts are treated precisely as the Consolidated Gas Company treats them, that is to say, that the stove repairs are included in the operating cost to gas, and, on the other hand, stove rentals appear separately as an item of income and not in the operating cost of gas at all?

A. So, also, do meters, yes.

Q. So also do meter rentals, but the answer is yes to that, is it not?

A. Yes.

Q. Now, you also deducted rent that the company paid amounting to $42,674.71, or .32 of a cent, being Item 62 of Exhibit 94, from the operating cost of gas, and, on the other hand, you credited against that rents received by the company amounting to $37,408.88, which, you said, left a balance of $5,265.83. Now, you observe, don't you, that rents receivable, according to the English method, and as appears in the fourth column on page 3 of Field's Analysis, are included in income, rents receivable and miscellaneous items?

A. Rents receivable and miscellaneous items are included as a separate item in the records of the company, not in the price of gas.

3697 Q. And that is the way that rents receivable are treated by the Consolidated Gas Company in the statements submitted here, is it not?

A. That I don't know until we have finished our examination.

Q. In the accounts presented here they are included, are they not, as part of the miscellaneous income?

A. Apparently.

Q. And rents payable are included, are they not, in page 5 of Field's Analysis on the same basis as taxes and management charges and bad debts as part of the cost of gas business?

A. They are also included apparently as one of the accounts of the gas business.

Q. And you do not find, do you, in Field's Analysis, anything or any place where rents receivable and rents payable are offset against each other or where repairs to gas stoves and rents from gas stoves are offset against each other and only the balance used in order to reduce the apparent cost of gas?

A. That is what I was looking for.

Q. Well, if you can find it there I would like to have you point it out.

A. The figures given in Field's Analysis are——

Q. I do not want you to get discoursive, but I want you to point out in Field's Analysis where you can show that the balance is deducted and only the balance used in computing the apparent operating cost of gas. I do not want your analysis but want you to show it in Field's.

A. I call your attention to the fact that Field does not carry his

analysis to final conclusions as is necessary, and therefore this deduction of one account from another is not required.

Mr. BURR: That is, it does not appear.

Q. It does not appear in Field's Analysis?

A. No, it does not appear.

3698 Q. You have stated that you think the amount of renewals appearing in the Consolidated Gas Company accounts from 1884 down to date were excessive. How about the repairs, do you find those excessive, too?

A. Pardon me, I stated that of two statements as to renewals made, one for the calendar year and another for twelve months ending October 31st, I gave my preference to the smaller amount of $194,666.87.

Q. Naturally, but you said, too, did you not, that you had examined State's Exhibit L relating to renewals and repairs from 1884 down to date, and that you thought the renewals were excessive?

A. That they appeared to be.

Q. How about the repairs which appear also in that exhibit, do they also appear to you to be excessive?

A. I should have to look it over very carefully. It is a large matter.

Q. It appears for the entire twenty years they only averaged 10.89 for repairs and renewals, whereas your associate, Professor Bemis, has testified that he considered in Chicago 10.16 to be a fair figure, and that the repairs and renewals would be greater in New York than they would be in Chicago.

A. Will you allow me to defer my reply until I know something about your accounts?

Q. No, I cannot because I am asked to cross-examine you now and your counsel has produced you for that purpose to-day.

A. It is impossible for me to indulge in that kind of thing, theorizing as to fractions of a hundredth of a cent.

Q. It was not my suggestion that these renewals and repairs were excessive from 1884 to date; it was your volunteered statement this morning, and I propose to cross-examine you on that. I have called your attention to Professor Bemis' statement and allow-

3699 ance in Chicago of 10.16 with the statement of his that repairs and renewals would be greater in New York than Chicago. If that is a fair statement of Mr. Bemis's testimony are you prepared now to say that 10.89 is an excessive figure for repairs and renewals in New York?

Mr. BURR: You will remember that Professor Bemis said that was a statement made by him in Chicago as read here from the report and that he did not at that time have the benefit of the testimony in this case.

A. I cannot answer that question without further information as to the accounts of the company.

Q. I show you again Field's Analysis, page 6, and ask you if the figures under the heading "Net coal and working expenses" do not include stove repairs and rents payable without any deductions for

stove rentals and rents receivable? I have figured it out for you, if it will aid you any in answering the question, and you can see what the items are (handing book).

A. This is figured on the mains of the three metropolitan companies, is it not?

Q. Well, whatever it may be figured on, I am simply referring to the form of the account which you approved in your direct testimony.

A. The distribution charges 3.71 cents appear to include salaries, wages, wear and tear, meter repairs and stove repairs and also appear to check out when added up for net coal and working expenses——

Q. (Question repeated.) Won't you answer the question that I have just asked you?

A. I think I have answered it.

The MASTER: Is it yes or no, Professor, that is the point?

The WITNESS: Yes.

3700 Q. And the item "Net coal and working expenses" is used as an equivalent in England for our expression "Operating cost," is it not?

A. I should have to look that up again.

Q. Is it not your impression?

A. In a general way.

Q. Now, will you look at page 2303 of your testimony where you figured out after these various deductions 53.51 cents per thousand feet as the operating cost of gas. Taking this figure without correction, you have not included therein any amount, have you, in order to equalize the renewals and repairs for the calendar year 1905 with the average renewals and repairs as shown by the company's experience.

A. I have stated it to be the cash cost of gas for 1905 and nothing more or less.

Q. Then will you answer the question that I asked a moment ago?

A. I have not.

Q. Professor Bemis included 5.31 cents to equalize by reason of the fact that the repairs and renewals were much lower than normal. If you add that to 53.51 cents, it will make over 59 cents, will it not?

A. Acting as your computer, yes.

Q. Nor does this 51.53 cents include anything for reserve or contingent funds, for which Professor Bemis before the Gas Commission allowed the company three cents, does it?

A. Referring to page 2339, item 67, contingent expense $194,666.87, or 1.45 cents, was included——

Q. I do not think that is an answer. Can't you answer with yes or no as to whether it does or not?

Mr. BURR: Pardon the suggestion, but I think you will get along quicker if you leave out the references to Professor Bemis, because I do not think the Professor knows what Professor Bemis testified.

Mr. MATHEWSON: Yes, because he says he has read all the 3701 testimony before the Gas Commission.

Q. Does the 53.51 on page 2303 of your testimony include any allowance or reserve or contingent fund?

A. Yes.

Q. How much?

A. $194,666.87 or 1.45 cents.

Q. On the contrary, that is not a reserve or contingent fund, is it, but an actual expenditure for renewals, as you understand it?

A. It is called contingent fund by the Consolidated Gas Company.

Q. But did you not take that ten cents contingent and renewal fund and deduct it from the operating cost of gas as shown by the company and include in its place $194,666.89 which you said represented the actual expenditures for renewals for the nominal year?

A. I beg pardon, that appeared to represent.

Q. Well, that appeared to represent. Then don't you understand that that $194,666.87 which you included as part of your 53.51 cents was not a reserve or contingent fund, but was an actual expenditure?

A. Did no contingencies occur during the year?

Q. And they were provided for in the balance of the ten cents which you have excluded. Now won't you answer the question?

A. Will you read that again?

(Question read.)

The WITNESS: I understood it to mean an expenditure of the kind classed as contingencies.

Q. Well, if you expend $194,000 in a year, it is not a contingent item at the end of that year, when it has been spent?

Mr. BURR: It has been spent meeting the contingencies that have happened during the year.

3702 Q. Let us not split hairs about this. Don't you understand that that $194,000 was actual renewals made during that year so far as you have any understanding on the subject?

A. Trying to be clear——

Q. Can't you answer that yes or no?

A. No.

Q. You can make it clearer by answering it yes or no than in any other way I know of.

A. Trying to make it clear, I understood by contingent expense, what I have heard some of your officials call undistributed expense, meaning by that, expense which it is hardly possible to anticipate or classify.

By the MASTER:

Q. That is not the point. The point is whether you did not in making up this figure consider that $194,000 as representing money actually paid out for actual renewals. Did you or did you not?

A. Mr. Master, I am terribly embarrassed by the fact that all this testimony that I am giving is to me individually doubtful because the figures submitted to me are doubtful.

Q. That may all be, but you present on page 2302 a certain result and the question is whether in arriving at that result you take

$194,000 as representing renewals or not. Now it may have been false or may have been true and you are not responsible for that. The question is how did you take it in making your figures?

A. I took it as the only thing possible for me to know, a contingency stated by the company as a contingent fund.

Q. Then do you mean to say that it represented something that was not paid out at all?

A. I don't know.

By Mr. MATHEWSON:

Q. Let me read from page 2312 of your testimony in this case.

"A. Referring to Mr. Addicks' item 'Actual replacements'
3703 2.12, it would appear as if the actual replacement for the twelve months ending October 31st, 1905, amounting to $194,666.87 or 1.45 cents per thousand cubic feet sold for the calendar year did not corroborate" and so forth.

Now didn't you consider then the $194,666.87 as representing actual replacements for that year?

A. All I truly know about that is that the word contingent was wrong and a statement was made that it was replacements. I have had no opportunity to examine it.

Q. Why did you deduct any part of the ten cents then if the whole ten cents in your mind was in exactly the same category, that is, contingent?

A. Because the ten cents was obviously preposterous.

Q. Why did you take the $194,666.87?

A. Because it was furnished by the company, as the best that I could do.

Q. As representing what?

A. I have no idea, but figures written by them under the name contingent. Whether it existed or not I don't know.

Mr. BURR: And as it appears on Exhibit 94?

Mr. MATHEWSON: Show me the $194,000 marked as contingent on any paper before this tribunal.

The WITNESS: Let me see the index.

Q. Perhaps I can solve this by asking you this question. Don't you remember that Mr. Carter testified in reference to this 10 cents charge both before the Gas Commission and here, stating what proportion of the 10 cents per thousand feet under the heading "Contingent and renewals" represented actual renewals and what part of it represented a contingent or reserve fund? Don't you remember that, that he did?

A. I have a very distinct recollection that that 10 cents was qualified.

3704 Q. Don't you remember that he testified stating what proportion of the 10 cents represented actual renewals and what proportion represented a contingent or reserve account as distinguished from actual renewals? Now, don't you remember that?

A. I would prefer finding the exact words of his testimony.

Q. Don't you remember that, Professor?

A. I can find the exact words of his testimony, and I prefer to find that.

Q. Well, in your testimony at page 2302 you say "Referring to the testimony before the Gas & Electricity Commission of New York it appears that his account was sophisticated by the introduction of a theory and the actual renewals hidden within the 10 cents per thousand arbitrarily fixed as the cost of contingencies and renewals. On page 1183, printed testimony before the Gas & Electricity Commission it is $194,666.87."

Q. Now, what is the $194,666.87, and what did you refer to and have in mind that it was? In other words, did you have in mind that it was actual replacement or contingent fund which did not represent actual replacement?

A. The statement of Mr. Carter, secretary, that the total of replacements in distribution plants and at works for the months of November and December, 1904, amounted to $87,522.47. The replacement in works and distribution plants actually occurring during the ten months ending October 31st, 1905, amounted to $107,144.40, making a total of actual replacements during the nominal year ending October 31st, 1905, of $194,666.87.

Q. Well then, you understand that $194,666.87 represents actual replacements, don't you?

A. To my——

Q. Well, do you not understand that, Professor? Can you not answer that yes or no?

3705 Mr. BURR: You understand that is the claim made by Mr. Carter, that it does represent actual replacements?

A. I don't understand his meaning of the word "replacements."

Q. Call it renewals. He has testified to that several times, that replacements and renewals mean the same thing.

A. Renewals has no proper meaning in the use of this word. You can do but two things to a gas works——

Q. Let me ask you another question. Do you understand that the $194,000 represents something actually done?

A. Claimed by Mr. Carter, say.

Q. And in your computation you assumed that to be a fact, didn't you?

A. I accepted it.

Q. So, returning again to page 2303 of the present record, to your 53.51 cents, that does not include anything does it, for reserve or contingent fund to cover matters which are not actually accomplished?

A. It does not cover matters which are not actually accomplished.

Recess until 2:15 P. M.

After Recess.

WILLIAM D. MARKS resumed cross-examination (continued):

By Mr. MATHEWSON:

Q. In order to obtain what you compute as the cost of the Consolidated Company's property in the gas business to-day, I find you take at page 2336 the increase in property amounting to $9,693,-
565.90 since 1884, then deduct from that $597,918.28 which
3706 you say represents the increase in real estate, leaving a balance of $9,095,647.62. The increase that you deduct appears to be what you term the increase from November 11, 1884, to December 31, 1905, instead of October 31st, 1905, doesn't it?

A. What date was that?

Q. The difference between October 31st, 1905, and December 31st, 1905, happens to be negligible, $128.71, but as a matter of fact, you took the increase to real estate to December 31, 1905, didn't you?

A. Exhibit 89 is the one I see that I used. Exhibit 89, October 31, 1905, and November 11, 1884.

Q. Yes, that gives the total increase as $9,693,565.90, but when you come to deduct what you call the increase in real estate you deduct the increase up to December 31st, 1905, do you not?

A. You mean from that?

Q. Yes.

A. Yes. Of course you understand——

Q. There happens to be very little difference in this case, but that would not be a proper method of procedure, would it?

A. All this is understood as rudely approximate and I was using what was readily available.

Q. The increase in real estate was available up to October 31, 1905, wasn't it, by this same exhibit?

A. Yes.

Q. Now, from this $9,095,647.62 which you call the increase after deducting the increase in real estate, you make further deduction representing the increase in value of mains, services, meters and other personal property, $12,866,766.62 being the value of the mains, services, and so forth, on October 31st, 1905, and deduct from that the appraised value in June, 1884, of $7,487,000, less office furniture, $70,000, which you omit, do you not?

A. In Senate Document 47, 1886, page 652.

3707 Q. But you get after this deduction of $70,000, the figure $7,417,000 as increase in mains, services, meters and other personal property, is that right?

A. No. The difference in the $5,000,000—that is the total of the book account, $7,417,000; in 1884.

Q. Yes, and you deduct that from $12,866,766.62?

A. Yes.

Q. Which is the book value of those items, and get a remainder of $5,449,766.62?

A. Five and one-half million.

Q. Well, I have given you the exact figures, I think?

A. Yes.

Q. And deduct that last amount from $9,095,647.62 which was the difference between the increase in our property according to your figures and the increase in real estate and get a remainder of $3,645,881 as the increase in value of plant since 1884?

A. Yes.

Q. Now, will you not look at Exhibit 79 in evidence here and see if that is not something like $260,000 out of the way as to increase in plants?

A. See if what amount is $260,000?

Q. The amount of increase of plant which you have figured out, to wit, $3,645,881. Isn't that about or, to be exact, $259,056.31 less than the actual increase in plant as shown on Exhibit 79?

A. What is the actual increase shown on Exhibit 79? What is the amount?

Q. $3,904,937.31, is it not?

A. $3,904,937.31, that is the amount as per your books, as I understand it, yes.

Q. Then how from our books do you figure out now an increase of only $3,645,881 in plant or $259,056.31 less than the amount from which you were computing actually showed?

A. The first thing that I did was to take the total amount claimed by you.

Q. We have already gone over that, Doctor, and shown just
3708 how you got it. Now, where does this discrepancy arise in your computation?

A. It arises undoubtedly from the fact that instead of taking the figures on your books I have taken first of all the figures given in evidence principally by Mr. Simpson amounting to $12,866,766 (page 2366), and from that I have subtracted the statement made by J. Yalden, Senate document 47, of 1886 (page 652 of the document, page 2367 of the testimony), and by doing so have obtained about five and one-half million dollars, which five and one-half million dollars I have subtracted from that $9 000,000, leaving about three and one-half million dollars as against what you have with your books, of which I have no knowledge, $3,904,000.

Q. But you do not find in Mr. Simpson's testimony anywhere that the value of the meters and other items were $12,866,766.62, do you?

A. I do not, no; but if I remember all right, he testified, with my entire accord in the matter, that the mains were worth about $7,852,000, the services worth about $1,212,000, and the meters $3,802,000, if I remember rightly, was a book account, he has stated, I think, in Exhibit 81. I may be wrong about that.

Q. But you took the increase, did you not, from November 11, 1884, and did you make any allowance for increase in real estate between the time of the appraisal in June, 1884, and the time the Company took over the property on November 11, 1884?

A. I did not, for I was simply endeavoring in an approximate way to relate the actual facts as they appeared, from very insufficient data of structural cost.

Q. Well, but to get at the structural cost, you first endeavored to

get at the increase in plant and other items from 1884 down to October 31, 1905, and what we are dealing with now is the increase?

A. Yes.

3709 Q. And I have shown your figure increased $3,645,881, whereas the very accounts from which you are computing showed the increase in plants to have been $3,904,937.31. Now did you take into account at all the increase in the real estate obtained by the Company in November, 1884, above that price or the value of the appraisal in June, 1884, amounting to $258,927.60?

A. I simply took the statement given in Exhibit 89 of the total increase (page 2366).

Q. But Exhibit 89, you will observe, deals only with the increase in these items between November 11, 1884, and October 31st, 1905?

A. Yes.

Q. It does not at all deal with the increase between the date of the appraisal or examination in June, 1884, and November 11, 1884, when a considerable change arose, does it?

A. No attempt was made. It was impossible——

Q. Well, it doesn't, does it?

A. It did not.

Q. So that your increase in value of plant would be short by the amount of the increase between June, and November, 1884, wouldn't it?

A. In so approximate a study as this it would be of no consequence.

Q. Well, $259,056.31 would be of considerable consequence to some of us, Professor, but the fact is, whether it was of consequence or not, it was not included, was it?

A. No.

Q. On page 2365 you make a statement purporting to give the amount at which the plants of the six old companies were carried on the books of those companies, as shown by Yalden's summary. Where do you find the valuation of the plant of the New York Gas Light Company, $2,893,767.35, which should appear, if I read your testimony correctly, on page 712 of Senate Document 47, of 1886?

A. Is that the second line or third line from the top?

The MASTER: No, the fifth line of figures from the bottom, on page 2365.

3710 A. "New York Gas Light Company, works and apparatus, $2,893,767.35" are the figures to which you refer, are they not? That was obtained in this way: On page 712 of Senate Document 47 of 1886, under the head of investments, works, apparatus, meters, mains and so forth were all together given at $4,186,000. From this $4,186,000 was subtracted by the use of the inventory made by Mr. Rowland the value of the mains, services and meters, leaving as the result the approximate and only the approximate value of the works and apparatus.

Q. Did you take the total as found by Yalden and then deduct the valuations of these particular items as found by Rowland in order to get your estimate of $2,893,767.35?

A. The only possible method of even approximating it.

Q. Did you do that?

A. Yes, I did.

Q. But you say Rowland's figures on the appraisal were very much above the figures at which these plants were carried on the books of the constituent companies. Do you think that reaches a fair result if you take the total of all the items including plant as found by Yalden as charged on the books of the constituent companies and then deduct the appraisal of Rowland as to a part of those; as to all except the plant? Do you think that would give us a fair result in the remainder as the value of plant?

A. The ap-raisal of the mains, services and meters is made and added in elsewhere.

Q. I am merely getting at this valuation of $2,893,767.35 and ask you whether you think that a fair figure can be obtained by taking the book charges for this property in toto and deducting that from the appraisal of a portion of it made at a much higher rate?

A. If I deducted too much at one point I have added too much at another.

3711 By the MASTER:

Q. Do you think it is fair?

A. I do, for all practical purposes.

By Mr. MATHEWSON:

Q. Now, I find that you take the total value of plants as you find them charged on the constituent companies, $10,737,418.70, that you increase $3,645,881 and get $14,385,299.70. What would that amount to if you added the $258,927.60 increase which you omitted between June and November, 1884?

A. At what page of the evidence?

Q. Page 2367, $14,385,299.70. You figured that out as against $16,175,382.67 which is the figure at which the plants are now carried on the books of the Consolidated Company?

A. You wish me to add $258,927.60——

Q. Yes, and including that increase what would the total be. I make it $14,644,227.30?

A. Acting as your computer, I make it $14,644,227.30.

Q. And so far as the plant is concerned, if your method of taking the entire assets of the New York Gaslight Company, as found by Yalden, and deducting therefrom the appraisal of Rowland as to all assets but plant is found to be incorrect, you would still have to add something more to that $14,644,227.30, would you not, to get the real valuation on your theory?

A. If it was incorrect, I might have to add or subtract, I don't know which.

Q. Well, in view of the fact that you have stated, that Mr. Rowland's appraisal was higher than the figure at which these plants were carried on the books of the constituent companies, it would mean you have deducted too much and that your remainder representing the plant of the New York Company would be too little, would it not, if that was not a correct method of procedure?

3712 A. No, but you will observe I took the appraisal of 1884, made by the company for mains, services and meters, and then I took the appraisal made by the same company for 1905, or thereabouts, and I subtracted one from the other and consequently had the same authority whether correct or not, in both cases, presumably.

Q. I am not getting at the comparison at present. I am simply getting at the valuation on the books of the constituent companies plus the increase from 1884, down to date?

A. Yes.

Q. Your valuation of the plant of the New York Gaslight Company as distinguished from its other assets would be too little, would it not, provided the appraisal of Mr. Rowland for the items which you deducted were a greater amount than those items were carried on the books of the constituent companies, is not that clear?

A. No, because I used for mains, services and meters Rowland's appraisal to add in one case, whereas in the present case I have used it only to subtract.

Q. I am dealing only with the present case and with nothing else except the valuation of plant. Now, won't you please answer the question, having that in mind?

A. Mr. Rowland's appraisal——

Q. Cannot you answer that question on the supposition that I have made?

A. What is the question?

Mr. MATHEWSON: The Stenographer will read it.

The STENOGRAPHER (reading): Your valuation of the plant of the New York Gaslight Company as distinguished from its other assets would be too little, would it not, provided the appraisal of Mr. Rowland for the items which you deducted were a greater amount

3713 than those items were carried on the books of the constituent companies; is not that clear?

Mr. MATHEWSON: Now can not you answer that?

A. I would like to. Nothing would please me better than to say yes and no to you. Mr. Rowland's appraisal does not appear at any point on the books of the constituent companies——

Q. No, of course not.

A. It does appear I presume on the books of the Consolidated Gas Company. Therefore in dealing with the books of the Consolidated Gas Company it is not improper to use his appraisal as something to be added or subtracted *pro rata*.

By Mr. BURR:

Q. You mean as the books of the Consolidated appeared of November 11th, 1884, we will say?

A. Yes. There were no books of the Consolidated before November 11th. It did not exist.

By Mr. MATHEWSON:

Q. You did not proceed upon any *pro rata* basis in getting the

valuation of the plant of the New York Gas Light Company at $2,893,767.35, did you?

A. This is all the crudest sort of exploration while waiting an investigation of some real value, merely for the purpose of showing the absurdity of the present values stated.

Mr. MATHEWSON: I move to strike the answer out.

Motion granted.

Mr. MATHEWSON: Repeat the question.

The STENOGRAPHER (reading): You did not proceed upon
3714 any *pro rata* basis in getting the value of the plant of the New York Gas Light Company at $2,893,767.35, did you?

A. At what point of the testimony?

The MASTER: You just said a moment ago you thought it was proper to take Mr. Rowland's valuation on a *pro rata* basis in getting at those values. Mr. Mathewson now asks whether you did it in getting at this figure in the fifth line of figures from the bottom on page 2365?

The WITNESS: I did. If such a crude performance can be called pro rating anything.

Q. The plant of the New York Company and all its assets in the gas business were carried on its books as found by Mr. Yalden at a certain figure, were they not?

A. They were.

Q. Now referring to Rowland's appraisal, did you take the entire amount of the appraisal of the assets of the New York Gas Light Company as appraised by Rowland and ascertain what proportion of that entire valuation of Rowland's was represented by plant?

A. Why certainly I did not. I would say—

Q. Then how did you apply any *pro rata* basis to getting this $2,893,767.35 as the valuation of the plant of the New York Gas Light Company on the books of that company?

Mr. BURR: Now you may explain the method fully that you adopted.

A. It was a case of compensation in the fact that whatever the value was of the mains, meters and services to be subtracted from the total value given, if I remember rightly something like $4,186,000.

Q. Yes, and from that you deducted, you have said, the
3715 appraisal of all the other assets except plant at the figures appraised by Mr. Rowland?

A. That's right.

Q. And you have stated that Rowland's appraisal was higher for the assets of these other companies than such assets were carried on the books of the companies, have you not?

A. Yes, I am not talking now—it is not true with regard to the Consolidated.

Q. Oh, no, I am talking about the six original companies and the transfer in 1884.

A. I am talking about the Consolidated prices. Rowland's prices

or valuations were the basis of the books of the Consolidated Gas that were——

Q. Well, I want to know what you meant a moment ago by saying you took a *pro rata* basis in computing the valuation of the plant of the New York Gaslight Company according to the books of that constituent company.

A. I will do my best to make that clear. The books of the Consolidated Company are based on Rowland's inventory as to the figures for their plant. The books of the six merged companies are not based on the inventory——

Q. We all know that.

A. When dealing with the figures of Rowland's inventory, it is in a crude way proper to make use of the figures, either in the books of the Consolidated Gas Company, but not of the six merged companies, or of the figures of Rowland's inventory.

Q. But you repudiate Rowland's valuations on the one hand and then you used certain of Rowland's valuations in deducting from the total assets of the New York Gaslight Company, as shown on the books of that company, to get a remainder, which you concede is the value of the plant of the company, do you not?

A. I repudiate both Rowland's inventory and the books of the Consolidated Gas Company. However, there is a pro rata of error, I presume. I don't know.

3716 Q. Now, taking your total of $14,385,299.70 (page 2367) waiving these other points to which I have called your attention, it appears that you deduct from that total $1,508,035 on account of the portion of the 18th Street plant taken by the city and $569,495.57 on account of the 111th Street plant which formerly belonged to the Harlem Gaslight Company, or a total deduction of $2,077,530.57, leaving a balance of $12,307,769.13 which you compute as the present value of plant on the basis of Yalden's figures, plus additions since. This valuation of $1,508,035 for the 18th Street plant taken by the city, was not Mr. Yalden's valuation of the 18th Street plant according to the books of the original companies, was it?

A. Mr. Yalden made no valuations.

Q. You have spoken of them from time to time as his valuations. The $1,508,035 is not the figure at which the 18th Street plant was carried on the books of the Manhattan Gaslight Company, is it?

A. Certainly not. It is Mr. Mayer's.

Q. Yes, Mr. Mayer's. Now, at what figure was that carried on the books of the original Manhattan Gas Light Company? Was it not $1,281,694.84?

Mr. BURR: I do not see that figure here.

Q. Well, can you tell at what figure that plant is carried, that is the entire plant at 18th Street, on the books of the Manhattan Gas Light Company according to Mr. Yalden?

A. Page 2365——

Q. Now, of your testimony, I know what you state there, but I am asking another question.

A. There appears the total of $2,238,629.82.

Q. For what?

A. For Manhattan Gas Light Company manufacturing building and Manhattan Gas Light Company apparatus.

Q. Well, but they owned both the 14th Street plant and
3717 the 18th Street plant. I am now asking at what figure this 18th Stre-t plant entire was carried on the books of the Manhattan Gas Light Company as reported by Mr. Yalden?

A. I do not think I stated that in my testimony.

Q. Well, I ask if you can state now?

A. I can look it up.

Mr. BURR: You refer to page 674, on page 2365, and you say, referring to page 674 the value of the same real estate belonging to the various companies consolidated appears to be given as follows: $930,872.45——

Mr. MATHEWSON: That is real estate. We are talking about plants now.

The WITNESS: There are two entries there making a total of $2,338,629.82, but the examination was not minute enough to require going into those details.

Q. Now Professor, without taking your time to compute it, according to the computation which I have before me the entire amount at which the 18th Street plant was carried on the books of the Manhattan Gas Light Company according to Mr. Yalden, land being excluded, was $1,281,694.84. If that be so, you have made a deduction upon Mr. Mayer's estimate of considerably more than the entire plant was carried by the Manhattan Gas Light Company, have you not?

A. The figures seem to exceed it.

Q. Have you any information as to how much of this new construction was applied to the Manhattan plant at 18th Street since 1884?

A. I have not.

Q. Now, let us take this Harlem Gas Light plant at 111th Street. You have stated in substance, if I understand you correctly, that you made this deduction of $569,495.57 on the theory that the
3718 111th Street plant was abandoned, did you not?

A. Abandoned, out of use.

Q. Is this $569,495.57 Mr. Yalden's appraisal of the entire plant?

A. Of course I would have to look that up again to be positively certain and verify it, but it appears to be $569,495.57 as the value in 1884.

Q. In 1884 But what about the additions to plant since 1884 at 111th Street, have you taken those into consideration?

A. I mentioned the fact that the holder "Of which the holder now remains," on page 2367.

Q. Have you made a personal inspection of that 111th Street plant?

A. I have not. This is information derived from statements of gentlemen who claim to know.

Mr. BURR: Not in the testimony in this case?
The WITNESS: Yes.

Q. Not from any testimony presented in this case?
A. No, but from gentlemen who claimed to know.
Q. Now, don't you know that as a matter of fact the City acquired only one block out of four of the 111th Street station?

Mr. BURR: He is speaking in the testimony of 112th Street, is that the same thing?
Mr. MATHEWSON: Yes.
The WITNESS: Referring to Exhibit 48——

Q. Did not you gather that from the testimony?
A. I say, referring to Exhibit 48—there is an irregular plot there, part of which appears to have been condemned by the City and the rest to have remained in the hands of the company, and as I am advised from the testimony and from others, not in active operation, except as a distributing station.

Q. However that be, is it not your information that only
3719 one plot out of four has been taken by the City and that the other three plots are still in use by the Company?

A. No. Part of it is used as a distributing station only.
Q. And have you not read the testimony, that the balance so far as not a distributing station, is held as a reserve capacity, and that the manufacturing apparatus there is in excellent condition and some of it has never been used?
A. I also was advised that the manufacturing apparatus was not complete.
Q. And you have deducted the entire valuation of the 111th Street plant as though it had all been abandoned, have you not, in this computation? The entire valuation as appeared by Yalden's figures, in spite of the fact that we still have three out of four blocks and that it is used as a distributing station?
A. In deducting the $569,500, Yalden's figures of 1884, I took a very small figure, presumably much less than the existing value of to-day, and therefore acknowledging all the time that this is but a crude exploration on my part, very much favored the company.
Q. You think it very much favors the company to deduct the entire valuation of the 111th Street plant, although only one block out of four has been taken by the City, do you?
A. Dating back to 1884, yes.
Q. And you observe that this plant is one which is valued by Mr. Mayer at $1,039,910, and you make no allowance for that at all, do you?
A. You are referring now to what plant?
Q. 111th Street.
A. I simply deducted the amount you have just stated, $569,500.

Q. Which was the entire figure at which it was carried on the books of the Harlem Gaslight Company in 1884?

A. Yes.

3720 Q. In other words, you have left in as part of the valuation of your plant only the items added since 1884, that is the effect of that, is it not?

A. I took it as a plant not used in the manufacture of gas, simply for distribution, and left, according to Mr. Mayer's statement, a million dollars to the credit of the company for a distributing station.

Q. Oh, no; but you have deducted $569,495.57, have you not, as against whatever valuation may be put upon it now?

A. As against a total valuation of $14,385,299.70——

Q. No, I am taking the 111th Street plant, not the value of all the plants. I say you have deducted on account of the 111th Street $569,495.67, have you not?

—. In so crude an exploration, it is impossible to individualize, and I did not treat that plant individually; I treated the lump sum of $14,000,000——

Q. Didn't you take $569,495.57 from your total estimate of plants on account of the abandonment of the 111th Street plant?

A. Yes, and from the $14,000,000——

Q. Was not that $569,495.57 the exact amount at which that plant was carried on the books of the Harlem Gas Light Company in the consolidation in 1884 according to Yalden's figures?

A. Yes.

Q. So that the result is this, you have left in your final estimate of plants, $14,000,000, only the amount of additions that have been put into the Harlem plant since 1884, is not that right?

A. All of which appeared on your books.

Q. Well, but is not that right?

A. Intentionally, allowing you what appeared on your books presumably——

Q. For additions since 1884?

A. Yes.

Q. And nothing more?

A. And presumably amounting to nearly a million dollars although I would require a more careful investigation before

3721 making any further figure. A most liberal treatment.

Q. You have left in your final valuation of plant only the additions to plant since 1884 at 111th Street, is not that the case?

A. I have left in the additions to all plants.

Q. I am talking—won't you answer my question as to this plant?

A. Including 111th Street.

Q. And that is all that is included as to 111th Street, isn't it.

A. I presume so. It applies equally to all the other stations.

Q. Now you take up the subject of real estate on page 2365, and start with the total for real estate $5,054,014.88, which you say is the summary of the real estate of the six constituent companies according to Yalden's figures. Now you have allowed in dealing with plant, mains, meters, services and so forth for increase since 1884. Why

don't you add to the value of real estate which you have taken the increase in real estate since 1884 amounting to $597,918.28 as appears by Exhibit 89 and I think Exhibit 79 as well?

A. Because the plants, mains, meters and services have all increased in length, in number and in size, which, speaking crudely as I do of the accounts, does not appear to be the case with the real estate.

Q. But this $597,918.28 to which I have called your attention represents actual additions to real estate, if you have followed the exhibits and not a marking up of the value of real estate since 1884. Why then should not that be added to the figure $5,054,014.88 with which you started, being Yalden's figures in 1884?

A. I am not familiar with the details of the real estate account of the Consolidated Gas Company, and what I have said has been picked up from various sources and used merely as a rough indication of the probable change in values of real estate—or costs, I should say, not values.

3722 Q. But it is not necessary to take a rough estimate, if you look at Exhibit 79, and you say you have read this record very carefully. Does not that show an increase in real estate of $597,918.28 since November 1884?

A. Yes.

Q. Well, then, if that is a new item in real esate that ought to be added, ought it not to Yalden's figures of $5,054,014.88 with which you started?

Mr. BURR: I call your attention to the fact, Mr. Mathewson, that that is represented on that exhibit to be construction since the consolidation.

Mr. MATHEWSON: That is the general heading which is used to apply to all the items including buildings, machinery, mains and services, and it is stated in Mr. Carter's testimony that this represents additions, as you will recall.

Mr. BURR: Additional purchases of real estate?

Mr. MATHEWSON: Additions as I understand it to the real estate which we had in 1884.

The WITNESS: This is the first time I ever heard it stated that that $597,918.28 represented additional expenditures for increased real estate.

Q. I think it quite clearly appears in the evidence but in any event, if it does represent such new expenditures, it should be added to the $5,054,014.88 with which you started, should it not, in the same way as the increase in mains and services?

A. No one accustomed to business could answer that question without a thorough examination of the real estate account of the Consolidated Gas Company.

Q. Well, assuming that it represents additional real estate, it should be added, should it not, to the original figure of $5,054,014.88 with which you started?

A. Acting as your computer.

3723 Q. No, I don't ask you to compute, but merely ask you if it should not be added on that assumption?

A. As an assumption, yes.

Q. Now from Yalden's figures as quoted by you, and waiving the question as to this $597,918.28, additional real estate, you deduct $1,985,874.37 and get a balance of $3,068,140.51 as the present value of the real estate used by the Consolidated Gas Company——

A. Pardon me. Actual structural cost.

Q. Actual structural cost and not present value?

A. Yes.

Q. Now, this $1,985,874.37 which you deduct seems to be made up among other items of the following item: Little Italy Park, 111th and 112th Streets, Harlem, $365,000.

A. Page 2364.

Q. Yes. Now, you deduct that from the value of the land. Do you know what that land was carried at on the books of the Harlem Gaslight Company?

A. On page 2365 reference is made to page 760, Senate Document 47, giving an amount of $159,000 in round figures.

Q. Yes, $158,899.81 in exact figures.

A. Yes.

Q. Now, that real estate entered into the total of $5,054,014.88 with which you started at $158,899.81, didn't it?

A. Yes.

Q. And you have deducted on account of that real estate, $365,000, have you not, or more than twice as much?

A. That was the testimony.

Q. Oh, yes, but we are dealing now with Mr. Yalden's figures, and you are deducting that real estate from Mr. Yalden's figures at more than twice the amount at which it entered into the total of $5,054,014.88 with which you started, are you not?

A. Mr. Yalden's figures were used for the purpose of determining the amount of money claimed by the various companies to
3724 have been spent on their real estate, which appears to be about $5,000,000.

Q. Now, can't you answer my question, Professor?

A. I am deducting the increase in price of the Harlem Gaslight Company's real estate at some subsequent period to November 10th, 1884, which appears to be $365,000.

Q. Now, will you be good enough to answer this question (question repeated)? You have stated that this Harlem real estate by Mr. Yalden's figures appeared to be $158,899.81 and at a figure which entered into the $5,054,014.88 with which you started?

A. Yes.

Q. Now, I say, you are deducting that same real estate at a valuation of $365,000 or more than twice as much as the figure at which it entered into *to* your original figures, is not that so?

A. I am deducting——

Q. Can't you give me an answer whether that is so or not?

A. I am taking it at the price of $365,000 given——

Q. And that is more than twice as much as the figure at which that same real estate entered into your initial amount of $5,054,014.88, is it not?

Mr. BURR: But always bearing in mind——

Mr. MATHEWSON: Please let me finish with the witness on this point.

A. Yes.

Mr. BURR: But always bearing in mind the figure $158,889.81 is the value as it appeared upon Yalden's account and $365,000 is the price which you received.

Mr. MATHEWSON: Yes, in taking the total at the outset we must take the smallest figure possible, and when you come to de-
3725 ducting in order to see what our present value is, you must take the higher figure.

Mr. BURR: We are not taking a higher figure, we are taking what you actually got for what originally cost you $158,000.

Q. Now, where did you get this $365,000 which you have deducted on account of the Little Italy Park?

A. I failed to have noted it, but I think it was in the testimony of one of the real estate experts.

Q. Was it not in the City Record or the city records showing the figures at which the property was condemned by the City, to wit, $365,000?

A. You are right.

Mr. BURR: In order to be correct, showing the award which was made for it by the City.

Mr. MATHEWSON: Yes, the award.

Q. You obtained then the $365,000 which you have deducted for Harlem land which was carried into the total originally at $158,-899.81 from the City Record. Didn't you examine the City Record to find out how much of that $365,000 was real estate, that is land, and how much was something else? I see you have deducted the whole $365,000.

(At this point Mr. Page appeared.)

A. My recollection is very vague, but it was in part, I think, damages as well.

Q. Damages for what?

A. I cannot recall the total proceeding. There is $25,000 in there——

Q. As a matter of fact, Professor, the record shows from which you got this $365,000 total, that of that award $246,100 was for plant and only $118,900 for real estate.

A. Yes.

3726 Q. If that be true how can you deduct the entire $365,000, even on your theory, from the valuation of land, to get the balance of land which the company still holds?

A. On the same system of compensation which I have already mentioned, if this amount is included in the real estate and not in the plant, why the ultimate result would not be affected.

Q. We are dealing now simply with the valuation of the land that is left to the company upon the basis upon which you have proceeded to reach that valuation, and I ask you again whether you ought to

deduct the entire $365,000 to obtain the value of the land left instead of $118,900 which was that part of the award which related to real estate.

A. Had I known this fact I would have separated the real estate from the manufacturing apparatus at the outset. But the result——

Q. But those facts appeared, the division appeared in the very document which you examined and from which you got the $365,000.

A. I beg your pardon. I said I had heard from a real estate expert, not that I had examined the document.

Q. Then this is something you obtained without an examination of the data yourself, is it?

A. It is.

Q. Don't you know, as a matter of fact, but a small part of the Harlem Company's real estate which altogether was included in Yalden's figures of $158,899.81 was condemned by the City in this proceeding, to wit, about one block out of four?

A. I was so advised.

Q. And the value of the property which was taken would naturally be only a fraction of $158,899.81, if it were valued on the same basis as Yalden's figures, would it not?

A. I beg pardon. The cost would be under your conditions, original cost, about one-quarter of $160,000, or about $40,000,
3727 and its value might be anything that a real estate expert might fix upon it.

Q. Now, your next deduction in making up your total deduction of real estate is for a parcel of land sold by the New Amsterdam Company for $180,000, which was appraised in 1884 at $130,000. Here again, do you take the figures at which that land was carried into your total by Yalden, or do you take a higher value since?

A. I take a valuation stated to me as the selling price, $180,000.

Q. Without any regard to the figure at which that was carried in your original total of $5,054,014.88, which you obtained from Yalden's tables?

A. Without any regard to Yalden's tables. In fact, all these tables on page 2364, including the total, have no relation whatever to Yalden's figures.

Q. Now, your next deduction was on account of bulkheads, at or about 21st street condemned by the city for $247,858. Was that again the figure at which those bulkheads were carried in Yalden's total or have you deducted these at a higher figure?

Mr. BURR: He has already said it applied to all these items.

Mr. MATHEWSON: I want to call his attention to them, there are only a few of them, so as to be sure we are clear about it.

The WITNESS: It has no relation to Yalden's figures.

Q. Now, your next two deductions are for bulkheads and land taken by the city at the 18th Street station?

A. Yes.

Q. Which you valued at $1,193,016.37. They are not carried at this last figure, are they, in Mr. Yalden's total of $5,054,014.88?

A. They have no relation to Yalden's figures at all.

3728 Q. Is this not a very much higher figure than they are carried in Yalden's total?

A. I could compare that if you wish.

Q. Is it not true that the value of all the land and bulkheads at the 18th Street station is included in Yalden's figures at about $473,000, and that your deduction now amounts to $1,193,016.37 for only a portion which——

A. If you will allow me to look at the book——

Q. Well, it may be a subject for computation.

A. North River property, page 674, Senate Document 47, which I presume is what you mean, appears to be put at about $473,000 by J. Yalden.

Q. Now, that is the entire property and yet, on account of the bulkheads and land which has been taken by the city there, constituting only a portion of the property you deduct $1,193,016.37, is that right?

Mr. BURR: There are other bulkheads and pier rights besides the North River.

Mr. MATHEWSON: This is the North River we are referring to now.

A. I deduct those figures because they were given to me by real estate experts.

Q. Where did you get the $1,193,016.37 which you deduct, what is your authority for that?

A. An extract prepared by one of the Corporation Counsel's assistants from the proceedings in condemnation between the city and the Consolidated Gas Company with regard to that property.

Q. Was that the highest estimate made by any one for the valuation for that property?

A. It was the one given to me at my request.

Q. And if you deduct this $1,193,016.37 while all the land and bulkheads at 18th Street were carried into your total of $5,054,-

014.88 as per Mr. Yalden at $473,173.51, this wipes out the

3729 entire valuation at 18th Street, as per Yalden and leaves a minus valuation of nearly $720,000, does it not?

A. An appreciation you mean.

Q. Call it what you please.

Mr. BURR: It is not a valuation, it is the difference between the original valuation and the price which you received for this property.

Q. And you will wipe out all our land and say we have nothing left, if you keep on. That would be the effect, would it not, Professor, to wipe out the entire valuation of all the land and bulkheads at 18th Street, as shown by Yalden, with nearly $720,000 on the other side?

A. Yes, but unfortunately neither the stocks nor bonds would be wiped out, which had been issued on it.

Q. That is too bad. And you noticed, didn't you that according to Mr. Wheelock that we still have land left there after this wiping

out and after what is taken by the city of $1,714,000. Have you observed that?

A. I had noticed it was quite a valuable piece of property you had left.

Q. Now you also deduct the sales to the Standard Gas Light Company——

Mr. BURR: There were no figures given.

A. I beg pardon, that is not given.

Q. So you make no deduction for that?

A. I have no means of finding the price.

Q. Now, Professor, upon your own theories, don't you think it would be a fairer proceeding to take either Yalden's figures of 1884 and when real estate is deducted to deduct for that real estate the figures at which it entered into Yalden's total, or, on the other hand, to take the present value of the real estate and to deduct from such total present value the present value of parcels which are to
3730 be deducted? Don't you think that would be a fairer method of procedure, to pursue either one course or the other, consistently?

A. The change in the books in 1884 rendered shifting from Yalden's values anterior to 1884 to subsequent values to 1884 necessary. It is proper in the matter of the real estate to charge against it everything that it has cost and to deduct from it everything that it has returned by sales.

Q. But if you take a total representing original cost as you suppose in endeavoring to find the value of the property which the company has left in land, is it not a fairer thing to deduct from the total of original cost the items which are disposed of at the figures which they entered into the original cost instead of at the figures of the present valuation?

A. It is not usually done in business.

Q. You do not think that that is the thing to do?

A. It is not done as a matter of business.

Q. And your theory might result when we had sold a considerable amount of land at a considerable increase over the original cost in wiping out completely the original valuation instead of leaving it nearly $3,000,000?

A. I have been fortunate enough to have that happen in some companies.

Mr. BURR: Always bearing in mind the testimony in this case that the real estate is no more valuable to-day that it was in 1884 for gas making purposes.

Mr. MATHEWSON: Is that your testimony?

Mr. BURR: I am calling your attention and his to the testimony in this case.

Q. Now referring to Mr. Yalden's figures, have you made any comparison between the figures of different plants as employed by him to see whether they give internal evidence of being accurate costs and values or not?

3731 A. Mr. Yalden's report disclaims anything else but a faithful transcript of the original books of the first merged companies.

Q. Very good. I am very glad to have that statement. Now the question is whether those books showed the actual cost of the companies instead of something else. Let me call your attention to some things. The 14th Street real estate as it appears in the books of the Manhattan Company, the original company that owned it——

Mr. BURR: Where do you get these figures?

Mr. MATHEWSON: I am going to call attention to them.

Mr. BURR: We are very anxious to get them.

Q. (Continuing:) Appears on page 674, I think it it, of Senate Document 47 of 1886, at $376,495, does it not, that is the 14th Street plant?

A. What is that?

Q. East River property at 14th Street and East River.

A. Yes.

Q. Now look at pages 826 and 827 and see whether the number of lots there are not 228.

A. Real estate 14th Street, East River, total value of the 14th Street station, East River, $1,400,000——

Q. No, but we are simply dealing with the land value you have given from the schedule, and I am speaking about the number of lots. It is 228, is it not?

A. Do you wish me to add those up?

Q. I did not know but that the total might be there or it might be easily computable.

Mr. BURR: Do you want him to give the number of lots by addition and adding them up?

Q. Is it easy to state or will it require some computation?

The WITNESS: I will add them up for you.

3732 The MASTER: I want to put on the record now while I have an opportunity a suggestion that all the counsel in this case should, so far as possible, be getting ready their requests and perhaps their findings or a memorandum of matters on which they want findings. Of course it will be manifestly impossible for Senator Page and Mr. Kirby to do much at it until they get their evidence a little further in, but Mr. Mathewson can and Mr. Burr can. I suppose you could have some of your subordinates or assistants working on that outside of here, because when we come to close eventually you will be pressed for time on that, and I think you will find it to be more laborious work than you think, and if you could have some of your young men working on the more formal parts of it, you will save time. Of course there is a great deal of it which is merely formal, and you can get that done just as well now as when the case is all in.

The WITNESS: 288 lots, yes.

Q. And similarly, are not the 225 lots at 21st Street station, pages 845 and 846, I think, of the same document?

Mr. BURR: Might I inquire what the object of this is, because no doubt when he speaks of the 14th Street property he means all of the property. Are you speaking of the computation as to the lots, so as to call attention to the number of lots?

Mr. MATHEWSON: Yes, that is the purpose.

Mr. BURR: I do not think it makes any difference.

Q. Does it appear how many lots there were at 21st Street?

3733 Mr. BURR: This statement that the Doctor is reading from——

A. This 18th Street and North River seems to be the next one.

Mr. BURR: The paper which the Doctor has was prepared by Rowland and not by Yalden, and it appears in Rowland's inventory.

Mr. MATHEWSON: Merely as to the number of lots. There is no difference in their statement as to the number of lots.

The WITNESS: I count, page 845, Senate Document 47, 95 full lots and six gores.

Mr. BURR: As belonging to what company?

The WITNESS: The real estate inventory of the New York Gas Light Company.

Q. Well, we have seen what the 14th Street real estate was carried on the books of the Manhattan Gaslight Company at, that is, $367,-495. Was not the 21st Street real estate, for a smaller number of lots, carried at $1,857,000, page 709, I think, of Senate Document 47?

A. Referring to what page of my testimony?

Mr. BURR: He wants to know if it was carried in the New York Gaslight Company's books at a certain figure and refers to page 706 of Senate Document 47. What was the figure?

Mr. MATHEWSON: $1,857,000 for the 21st Street property.

Mr. BURR: There are two items here, Hester Street property $100,000 and real estate at gas works $1,220,000.

Mr. MATHEWSON: Don't you find additional real estate there at the gas works, making a total of $1,857,000?

3734 The WITNESS: On page 709, under the item, "To Real Estate and Gas Works, State of Account prior to Credit of Appreciation, $1,220,000; appreciation written up $637,000——

Q. No, no. Now, wait a minute.

Mr. BURR: Let him finish.

Mr. MATHEWSON: No, I want an answer to my question.

Mr. BURR: But the figures you have asked for appears to be the amount at which it sold for, $1,857,000.

Mr. MATHEWSON: As appearing on the books of the constituent company.

Mr. BURR: That is what the land sold for.

Mr. MATHEWSON: Well, go ahead.

The WITNESS: Sold for $1,857,000.

Q. That means the figure at which the land was acquired by the Consolidated Gas Company at the consolidation, do you understand?

Mr. BURR: That means as this book shows, does it not, the state of account prior to credit of appreciation $1,220,000, and appreciation written up $637,000, sold for $1,857,000, as it appears by that record.

Mr. MATHEWSON: Yes.

The WITNESS: It means the relative value of the land of the New York Gaslight Company as compared with the valuations placed for stock distribution in all the companies.

Q. Now, we will reach the point which I was reaching, you having covered yours. If you take 14th Street land at $367,495, at which figure it was carried on the books of the original companies, and divide it by the 228 lots, it would appear that the lots
3735 were carried at 14th Street at about $1,622 per lot, would it not?

A. I will accept your figures.

Q. If they are wrong, you can correct them later, Professor.

A. Yes.

Q. And if the value of the land at 21st Street, just above, on the books of the original company, was carried at $1,220,000, and there were about one hundred lots——

A. Ninety-five lots and six gores.

Q. Call the six gores full lots for this purpose—for 100 lots it would mean a valuation of about $12,000 per lot placed on that land, wouldn't it, on the books of the original company?

A. I will accept your figures.

Q. As compared with $1,622 at 14th Street. They are both on the East River, you understand, Professor, don't you, on the same side of the City?

(No reply.)

Q. So, too, please——

The WITNESS: One moment. We were talking about the real estate at 14th Street and also about the real estate at 21st Street?

Q. Yes.

A. Both, on the East River, apparently.

Q. Is it fair to say, Professor, that my computation, which I have not verified, shows the 21st Street lots to be a larger number and to be valued at somewhat less than your figures, but there is a very great discrepancy between the values at 14th and 21st Streets nevertheless, which is the point I was going to bring out.

Mr. PAGE: I was just going to call attention to the fact that there are several blocks which you apparently have not covered.

Mr. MATHEWSON: It is not a matter of exactness or a matter of which I desire to prove anything by the witness except that there is a large discrepancy in the figures at which the lots were
3736 carried on the books of the two comapnies in the same neighborhood.

Q. Now, taking the plants at 14th Street and 18th Street of the Manhattan Gas Company, they were both coal gas plants, you remember?

A. Yes, I remember.

Q. And you remember that their capacity was the same?

A. No, I do not.

Q. Did you observe the relative values at which these two plants, of what the testimony shows to be the same capacity, were carried on the books of the same company at?

A. Of each company do you mean?

Q. No, no; of the same company, because both these plants were owned and operated by the Manhattan Gas Light Company at the consolidation in 1884.

A. I beg your pardon. Can you refer me to the page?

Q. I think page 674 may show, and if I am wrong in my assumption that the capacity was the same in 1884, I wish to be corrected. Now, the plant as it was carried on the books at 14th Street, manufacturing building, when I refer to the plant I refer merely to the manufacturing building——

A. Referring to page 674, the two plants are given there after being subjected to appreciation and afterwards one of them to depreciation——

Q. I am speaking now of the values according to the books of the original company which you assume to be cost. Is it not true that the buildings at the 14th Street station, were carried at $75,197.54 according to Yalden's table?

A. East River property, buildings and improvements——

Q. $75,197.54.

A. Yes.

Q. Now what were the buildings at 18th Street carried at?

A. North River property at $372,621.46.

3737 Q. Now if those plants were both coal gas plants and of the same capacity, that discrepancy between the buildings, between one place and another, might indicate pretty loose bookkeeping, might it not?

A. It could indicate almost anything that you wish to attribute to it.

Q. You said a few moments ago that it would be all right if you deducted the $365,000, which represented both land and plant in the condemnation at 111th Street from the value of the land because it would not then be deducted for plant.

A. Yes.

Q. Now, as a matter of fact, did you not deduct the entire $569,000 representing the whole value of the 111th Street plant from plant also when you were dealing with that, on the theory that it had been abandoned.

A. Referring to page 2367, I there state that I have deducted $569,495.57, as the value in 1884.

Q. That was the entire valuation in 1884, according to Yalden's figures on that plant, wasn't it?

A. Yes.

Q. So that there does not seem to be any special compensation to use your own words, in that case, does there, where you deduct the value of plant, at 111th Street, from the value of real estate also?

A. If you are not aware of the fact that three-quarters of the

land, a good gas holder, and a half completed gas-making apparatus was still in existence then.

Q. Yes, but I am getting at your theory of compensation. I do not see where the compensation comes in if you have deducted the entire Harlem plant from the plant account and subsequently deduct that which is condemned by the city, that is, the plant which is condemned by the city as well as the real estate condemned by the city, from the value of land also as you did when you took out the whole $365,000. Where does the compensation come in to
3738 which you refer?

A. In the residue which is of, I presume, very considerable value as it stands to-day.

By the MASTER:

Q. Where is the value in your figures represented?

A. It is left to them in the improvements and additions to their plant. $9,000,000—page 2367, there is $3,645,881 residue of the amount added for improvements left. Also at the bottom of page 2365 there is $10,737,418.70, the apparent cost of the six original plants at the time they were turned over in 1884.

By Mr. MATHEWSON:

Q. The point I am making is this: You said there was compensation when you took out the value of plant condemned by the city as well as land condemned by the city from the value of the land, thereby reducing the value of the remainder of the land which we had left, because if it were deducted there, it would not be deducted in plant. Now, as a matter of fact, you deducted the valuation of Yalden as to the entire plant from plant account, as well as deducting this whole $365,000, from real estate, did you not, and if so, where is the compensation to which you refer?

A. I could find it in a day in the books of the Consolidated Gas Company and this. It is very difficult to——

Q. I do not believe you could find the compensation, Professor, but I would like to know where it comes in. Certainly it is not compensation because we have got a little something left in hand.

A. (No answer.)

Q. Well, if you are not able to answer the question——

Mr. BURR: At this time.

3739 Q. (Continuing:) Further, I shall not press it.

A. It would be very easy to answer the question with sufficiently full figures from the books of the two companies. As I have said before, my figures were simply an exploration of a field with very insufficient equipment.

By Mr. BURR:

Q. As to data?

A. As to data.

By Mr. MATHEWSON:

Q. As to mains and services, I ask you whether you stated in sub-

stance in your affidavit that you had carefully recomputed the cost of the mains owned by the Consolidated Gas Company from the inventory given by Mr. Simpson and that you were of the opinion the cost of installation as given on the books of the company was probably correct and moderate?

A. I did. Assuming his figures to be correct.

Q. As to mileage and size?

A. As to mileage and size.

Q. And did you also state that Mr. Simpson's estimate of the cost of reproduction, $12,636,150.04, had been similarly checked and appeared to you to be moderate and fair, but unnecessary?

A. I did.

Q. Now, as to services, did you say in your affidavit, that Mr. Simpson's estimate of the value of the services of the Consolidated Gas Company 86,338 in number, at a book value of $1,212,071.09, appeared to be moderate and correct?

A. I did.

Q. Given an average of about $14 for each service, curb box and stop valve because it corresponded very closely with the average experience as to the cost of installation of services in other large companies?

A. I did.

Mr. BURR: He said that in his direct examination. He
3740 said that always assuming Mr. Simpson's figures and statements to be correct.

Mr. MATHEWSON: Of course; as to numbers and so forth.

Q. You have, in the course of your testimony, mentioned $2 per thousand feet of sales as the value of the plant of the Consolidated Gas Company?

A. I have.

Q. Do you know of any engineer who uses the basis of $2 in the construction of gas works in any large city in this country to cover land, plant, mains, services, meters and everything else that goes to make up a complete operating company, and if so, will you name him?

A. Apparently the structures of the plants in Cambridge, Fall River, Lowell and Worcester——

Q. No, no, no. I am asking for some information of your own on that?

A. I never heard anybody enunciate it except myself; my own statement, for which I am responsible.

Q. And in connection with the cost of gas as well as pressure, did you state that while you considered it mechanically possible by isolating the gas mains of the Island of Manhattan according to their levels, and feeding each level by means of a separate feed main or mains, with the use of governors to come within the limitations of the law of June 3, 1905, it did not appear to you to be necessary and that any such attempt as this would be found to be commercially expensive and technically very troublesome in operation, without giving any return in real advantage or economical results to consumers (page 48 of affidavit)?

A. I did.

Q. And of course if it is commercially expensive and fully possible to be done the expense, so far as return on capital necessary to accomplish it is concerned, or the expense of operation of the system when installed, would be a charge against the consumers of gas to be reckoned with in fixing the price at which that gas could be sold? That is a fair proposition, isn't it?

3741 & 3742

A. It is so.

Q. And isn't it true that in the gas business a company with a growing consumption prudently anticipates the future reasonably in the building of its manufacturing plants?

A. That is proper and wise.

Q. And I see that you allowed a certain addition to the plant owned by the Consolidated Gas Company amounting to about five and one-half million dollars to represent the plant which was used in the manufacturing of gas sold by the Consolidated Gas Company which it acquired from other companies?

A. I did.

Q. And it would not make any difference in your computation whether that plant were the plant of other companies or whether the five and one-half millions be located at Astoria and produced the same gas?

A. None whatever. The sources of the gas would have no consequence.

Q. And of course it would be part of the capital, whichever course were to be pursued?

A. Yes.

Mr. MATHEWSON: I think that is all, Mr. Burr.

Adjourned at 4:40 P. M. to Thursday, November 1st, 1906, at 10:30 A. M.

Last Exhibits:

Complainant's, 256.
State's, W.
City's, 61.

3743 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, THURSDAY, *November* 1, 1906—10.30 a. m.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Kirby.

3744 WILLIAM D. MARKS resumes the stand.

Redirect examination by Mr. BURR:

Q. I call your attention to the testimony on page 2595, given by you in reference to the structural cost of the Cambridge, Fall River, Lowell and Worcester Companies. In response to a question of Mr. Mathewson, you stated the apparent result from the figures previously given by you regarding these companies——

A. The Boston companies?

Q. The Boston companies, yes. "The apparent result from these figures, cost per thousand daily capacity $808.31, dividing by the capacity factor of apparent cost per annual cost, is $4.04."

Mr. MATHEWSON: That must be a misprint. I never said that.

Q. Well, you took the four Massachusetts companies and obtained, as I understand, $1.75 actual structural cost per thousand cubic feet?

A. I did.

Q. You added to this, making $1.78, so as to be liberal?

A. I did.

Q. The assumption in this question would make the apparent cost per annual thousand 4.04 in Boston, would it not?

Mr. MATHEWSON: No, no.

A. The figures given by Mr. Mathewson and the computations made by myself to assist him gave $4.04.

Q. As to Boston?

A. As to Boston.

Mr. MATHEWSON: It is $4.20, if you include all the gas assets in Boston. You should read the next question. That was merely certain assets.

The WITNESS: I was referring to the actual structural cost.

3745 Mr. MATHEWSON: Excluding cash on hand and things of that sort.

Q. Is the valuation of gas works per annual thousand cubic feet sold in Boston more than the proper valuation of gas companies in other Massachusetts cities of about 100,000 population?

Mr. MATHEWSON: That is objected to as purely a conclusion to be derived and determined by others, upon the facts submitted.

Mr. BURR: He can either say that it is or not. If he says it is I will ask him upon what he bases that statement.

The MASTER: The question seems to be objectionable, calling more for a conclusion than a matter of legitimate opinion. I will sustain the objection, give you an exception, Mr. Burr, and the answer may be taken down.

Mr. BURR: I will put it this way:

Q. Is the valuation of gas works per annual thousand cubic feet sold in Boston excessive, in your opinion?

Mr. MATHEWSON: I object to that. You asked whether it is greater than other Massichusetts companies. That is another question. The Professor has not indicated anything which qualifies him to make a statement of that kind.

Mr. BURR: I will ask him on what he bases his statement.

Objection sustained.

Mr. BURR: Exception.

A. Yes, it is excessive.

Q. Upon what basis do you make that statement?

3746 A. It is upon the statements made in the report from the Committee on Manufactures relative to the price of gas in Boston, June 11, 1900.

Q. Contained in what report?

A. On page 178, Appendix C, to the 16th Annual Report, Gas and Electric Commission of Massachusetts. That is for the year ending December 31, 1900.

Q. Will you refer more specifically to the statements in that report?

A. In the column headed, "Total Assets," in the table on that page——

Q. What does that column give?

A. (Continuing:) We find the total asset- of nine Boston companies. It is testified by Mr. F. E. Smith, assistant treasurer of the Boston, the Roxbury and the South Boston Companies, that it had been the practice of those companies to charge all new work to construction——

Q. Pardon me a moment. Let us get this straight. Will you commence the quotation from, "A word?" Proceed to quote from this report at the page stated.

A. "A word should be said relative to the column entitled 'Total Assets.' It was testified by Mr. F. E. Smith, assistant treasurer of the Boston, Roxbury and South Boston companies that it had been the practice of these companies to charge all new work to construction and to charge off nothing to depreciation. If this has been the system adopted, it follows that the book assets are largely in excess of the actual assets, for in the nature of things there must have been

a substantial depreciation. The column entitled 'Accumulated Surplus' shows that these companies have, besides paying the dividends to their stockholders, accumulated from their earnings from consumers a large sum of money which is sufficient to secure
3747 stockholders from accidents or contingency and loss—a large sum for depreciation.

"A single exception must be made to this. The Brookline Company has no surplus. Its liabilities are $303,595.75 in excess of its assets. This grows out of the peculiar conditions under which the Brookline Company has done its business for the last seven years, which will be more fully explained hereafter. Of all these companies the Charlestown and East Boston are the only ones which are now under the management of boards of directors elected by stockholders who are residents in our own communities. Substantially all the stocks of all the other companies have been bought up by speculators and are pledged to two New York trust companies as security for large amounts of so-called stocks and bonds put out by the Bay State Gas Company of Delaware, a Delaware corporation, and the New England Gas & Coke Company, a syndicate of eleven trustees, nine of whom are not residents of this Commonwealth."

In addition to this statement, the Committee on Manufacturers states on Page CLXXIX:

"Certain important results of this quasi-consolidation may here be noted.

"In the first place, the manufacturing plants of the South Boston and Roxbury companies have been shut down, and thes- companies have bought their gas for some years from the Bay State Gas Company of Massachusetts."

And again, Page CLXXX:

"Your committee are of the opinion that there has been a considerable unnecessary duplication of capital by these means,
3748 and that justice to the consumer demands that if a gas company is to be permitted to disuse its own manufacturing plant and purchase its gas of another company, this arrangement should be made so as not to impose upon the consumer any unnecessary duplication of capital. The gas plants can (doubtful; substitute cannot) be maintained, but not used simply for the purpose of furnishing a basis of paying dividends upon capital, which may have been invested, but which is no longer used for the public benefit."

Again, Page CLXXXII, the Committee states:

"Owing to a contest between Mr. Rogers, or the Standard Oil interests of New York, and Mr. Addicks, the controlling spirit of the Bay State Gas Trust, the Standard Oil party bought the controlling interest of the Brookline Company and entered into competition in the Boston field, for the purpose of driving Mr. Addicks out of Brooklyn and Buffalo, New York."

Mr. MATHEWSON: I don't think that this has any weighty effect on the assets of the Boston Company or upon the question before the Master.

The WITNESS: "This competition had not as its basis any reduction in the price of gas, nor furnishing to an unsupplied part of our

people lighting facilities; it was a speculative movement, pure and simple. This competition went on from early in 1893 until May, 1896. At the expiration of that period the Brookline Company had book assets, as appears from the table above, of $4,627,907.35, and liabilities of $4,931,503.10, showing a deficit of $300,000. Its actual assets are apparently considerably less. On its appli-
3749 cation to the Board of Gas and Electric Light Commissioners for authority to issue another $1,000,000 of bonds, the Commission did not find assets sufficient, in their opinion, in justifying them in the issue."

Mr. MATHEWSON: Are you reading from your notes?

Mr. BURR: No, this is all a quotation from the official report.

The WITNESS: "There is weighty evidence that the property of this company is worth $1,000,000 less than its books would indicate."

From a minority report of Charles F. A. Smith, of the same committee, page CCV, I take the statement:

"It would seem that still further opportunity for a reduction might be found, if some of the companies were made to dispose of certain property, which will practically remain idle, as they do not manufacture their own gas. Further inquiry along this line should have been made, but a premature closing of the hearings prevented this. The proceeds of any such sales should be applied to the payment of some of the outstanding obligations, and thus reduce the interest and capital charges."

From the above it is evident that the book account of the Boston companies merged into the Consolidated Gas Company are entirely unreliable as a basis of true cost of construction, and that the figures on the books are largely in excess of the actual structural cost of the works.

Q. And was it for that reason that you selected as a basis for comparison the four companies having a regular organization and
3750 a normal growth, the Cambridge, Fall River, Lowell and Worcester Companies?

A. I at first investigated Boston for the purpose of making a comparison, and finding the facts stated by the Gas Commission and recently quoted by me, as well as many others, I selected, because I believed that there had been an ordinary organization and a normal growth, the four companies in Cambridge, Fall River, Lowell and Worcester.

Q. And you deduced from them an average of $1.78 actual structural investment per annual thousand feet capacity, did you not?

A. I deduced an average of the totals of $1.75 and an average of the averages coming at $1.78, I accepted that as being more liberal and in favor of the companies.

Q. Have you any other authority for avoiding the use of the book accounts of the Consolidated Gas Company of Boston as a basis for the computation of the actual structural value of gas works in general?

A. Yes, the capitalization of the Boston Consolidated Gas Company was fixed by the State Legislature of Massachusetts at $15,124,-

600 for "All the property, locations, rights, licenses, powers, privileges and franchises of all the corporations mentioned in Section 1, Chapter 421, Laws of 1905, Massachusetts."

There is also the statement in the Act, "The Boston Consolidated Gas Company shall not be the acceptance of the capitalization herein furnished, be deemed to have admitted, for any purpose, that the par value of such capitalization is equal to the value of its property, or to the value of the property necessary for the proper conduct of its business." In fact there is, in my opinion, little doubt that works costing, as an actual structural investment, somewhere in the neighborhood of $7,000,000 or $8,000,000 would amply suffice to supply Boston's present annual gas requirements, or its total sales for
3751 the year ending June 30th, 1906, of 3,988,188,700 cubic feet, as reported by the Gas Commissioners.

Q. Is the distribution of gas in Boston any more difficult than in other communities?

A. The cost of the distribution of gas in Boston may be somewhat more difficult than in many more communities in the soil of which there is not a large proportion of rock or of made soil. I have estimated the above somewhat higher price——

Q. You mean the seven or eight million dollars?

A. Yes, a somewhat higher price per annual thousand cubic feet of sales than in the case of the gas companies situated in other towns in Massachusetts. I refer to actual structural cost.

Q. For that reason?

A. For that reason. I have, however, assumed that there shall be no duplication of gas mains as appears to be the case in the streets and that the capacity of the gas works of Boston shall be for a maximum daily demand of about 15,000,000 cubic feet, for the maximum demand reported for the year ending June 30th, 1906, by the Massachusetts Gas & Electric Commission, being very nearly 15,000,000, not quite.

Q. You are familiar with the recent proceedings in Boston on the petition of the Consolidated Gas Company to have determined the fair value of the plants and profits of its constituent companies, are you not?

A. I have read the proceedings of the Boston Consolidated Gas companies in the case of both petitions.

Q. To fix the price of gas and to fix the values of the plants?

A. Yes.

Q. For the purpose of capitalization?

A. For the purpose of capitalization, and at no time during these proceedings were the Commissioners of Gas and Electricity allowed to fix values, although they were experienced in the cost of
3752 Massachusetts gas companies, that is, if anybody could be said to be; nor in those proceedings did I find any attempt by a recognized commission or board of engineers, to fix the proper cost of an ordinary gas works and distributing system as would be required to supply gas to the citizens of Boston under the existing conditions.

Mr. MATHEWSON: You mean in the proceedings in connection with the consolidation of the companies?

The WITNESS: In the proceedings in connection with the consolidation of the companies, or the petition concerning the price of gas.

Q. Now, while on the subject of capitalization of the Boston Consolidated Company, and comparing that capitalization with the capitalization of the Consolidated Gas Company of New York, did or did not, in your opinion, the division of twenty million dollars in six per cent. debentures among the Consolidated Gas Company of New York stockholders result in excessive capitalization, and if so, in what way?

Mr. MATHEWSON: I object to that as utterly improper. There is no evidence that we have distributed twenty million dollars of debentures. The testimony clearly is that the company authorized twenty million dollars of debentures and sold nineteen million, eight hundred and ninety thousand dollars to their stockholders at par in cash and received the money and have spent seven or eight million dollars already in the Astoria investment, and have the rest in cash or temporary investments, as it is being poured in by further construction. Now, what possible propriety is there in a question
3753 of that sort or in a conclusion of the witness based upon that assumption?

The MASTER: I think that is objectionable, Mr. Burr. You have the facts here about it. I do not see that the witness's characterization will add anything. I sustain the objection.

Mr. BURR: Exception. You may answer.

A. At the time of the allotment of twenty million dollars of six per cent. debentures by the Consolidated Gas Company of New York, to its stockholders, the stock of that company was selling on the market at an average very closely approximating 204 for each $100 share. These 6 per cent. debentures were convertible in 1907 into the stock of the Consolidated Gas Company and for that reason would naturally become a very attractive investment, commanding a large premium; and if they had been sold in the open market by the treasury for whatever they would have fetched, in my opinion they would have commanded a very large premium indeed, approximating to the premium of 104 then existing on the stock. The result would have been that the treasury of the Consolidated Gas Company instead of realizing exactly $20,000,000 from the distribution at par and paying six per cent. on it, would have perhaps realized twice that sum, or something less than twice that sum, ranging in cash something below $40,000,000, which would have been applicable for the purposes of the company without the capitalization being any more than $20,000,000 to procure it.

Q. Please turn to page 2448. You were asked this question: "You expect, do you not, that the investment of the Consolidated Gas Company in its manufacturing and distributing plant in 1907, if its output is 15,000,000,000 feet or more, will be greater
3754 than the investment required to-day with its output of 13,000,000,000 feet or more?" To which you answered "Yes." Do you wish to modify or explain that answer?

A. I would like to answer the question more clearly and concisely.

A plant having a sale of 13,000,000,000 cu. ft. annually will in my opinion cost about $26,600,000, and a plant with a sale of 15,300,000,000 cubic feet, will in my opinion cost $30,600,000, estimating the actual structural cost at $2.00 per annual thousand cubic feet of sales. Referring now to the sales of gas, if 13,300,000,000 feet of gas are sold at $1.00, the gross receipts will be $13,300,000. And if the cost of the gas is, as it appears to be, about 50 cents per thousand cubic feet for manufacturing, distribution and general management—I refer to the cash expenditures in the manufacture of gas—the net earnings on this will be $6,650,000. Again, if a plant sells 15,300,000,000 cu. ft. of gas at 80 cents, the gross earnings will be $12,240,000, and if the cost of producing this gas is 50 cents at the meter, the net earnings will be $4,590,000. It is probable, however, in the first case of 13,300,000,000 cu. ft. sales of gas——

Q. That is, the cost being 50 cents.

A. If the cost happens to be 50 cents, and that in the second case of 15,300,000,000 cubic feet sales of gas the cost will be substantially less than 50 cents per thousand cubic feet, and therefore the reduction in net earnings will be much less than the $2,060,000 which would appear in subtracting $4,590,000 from $6,650,000.

Q. The reduction of net earnings?

A. Yes.

Q. I wish you would just give us those figures. In the first case the gross earnings would be how much?

A. The results will be as follows. The first case, gross earnings $13,300,000, second case gross earnings $12,240,000 saving to consumers and reduction in gross earnings also $1,060,000. Another tabulation: In the first case the net earnings $6,650,000 for
3755 1905 and in the second case net earnings $4,590,000 for 1907. Reduction of net earnings, $2,060,00- as above computed.

Q. In the first case what would the profit be?

A. In the first case the profit will be 25 per cent. on $26,600,000 and in the second case the net profit will be 15 per cent. on $30,600,000. And these figures would appear to me to be about the actual truth as to the situation of the Consolidated Gas Company to-day, and to show that as near as may be that the statement quoted from my written work on testimony, pages 2516 and following are correct. It was after investigating a very large number of corporations engaged in furnishing gas and electricity that these statements were made. And further——

Q. That the statement was made in your book?

A. Yes, these statements were made in the book, and, further, that this particular statement was made: "A corporation, capitalized only to the extent of its cash investments, restricted to a fair dividend of about 8 per cent. and a reserve of 7 per cent, for large renewals and repairs is a beneficent institution."

Q. Referring to page 2585 of the testimony, your attention was called to the affidavit which you made in this case and particularly to that part of it referring to the capitalization and dividends of the Massachusetts company to which you have referred. You gave the dividends per thousand cubic feet and also the capitalization per

thousand cubic feet as taken from the report of the Massachusetts Gas and Electricity Commission, June 30th, 1904, pages 102 to 111 and 118. In that tabulation did you or did you not refer solely to that portion of it on which dividends were being paid?

A. Yes, and I endeavored to make it clear that the only
3756 object of the tabulated data given in my affidavit was to show the dividends on stock in percentages and also the dividends per thousand cubic feet of sales. The rest of the tabulation is merely for the purpose of identifying and referring to my authority.

Q. If a franchise tax is assessed upon the stock of a company furnishing gas, is it, in your opinion, proper to charge the amount of this tax to the cost of manufacturing and distributing gas?

Mr. MATHEWSON: Wait a minute; is not that the purest kind of a conclusion? I object to it on this ground.

The MASTER: There has been that kind of evidence allowed, and I will let him answer.

Mr. MATHEWSON: Exception.

A. It is, for this franchise tax is in the nature of annual operating expense, and though the franchise, being a gift, should not be capitalized, any tax placed upon the theoretical value of this gift should be charged to the cost of operation.

Q. You do not adopt, however, Mr. Mathewson's theory, as I understand it, that the greater the increase in the value of real estate owned by the company becomes, the greater the cost of gas should become to the consumer by reason of the increase in capitalization of the company due to the increase in value of the real estate?

A. I do not for this reason, that the real estate used for the manufacture of gas in the case of the Consolidated Gas Company, at least, has always earned a profit on its purchase price.

Q. Well, but the taxes on this increased value are paid by the consumer, are they not?

A. They are.

Q. And should he, in your opinion, be compelled to pay the return upon such increased capitalization in addition?

3757 A. He should not. If he pays increased taxes, he should not pay increased profits on a problematical sale in the future, although, of course, it would be natural to sell land at a profit if he could.

Q. I call your attention to page 2531 of the testimony. You were examined at this point by Mr. Mathewson with regard to the situation in Philadelphia, as you had referred to it in your testimony and in the affidavit which was made in this case, and you were asked this question:

"Now, whatever gas the company delivered to the city is delivered, is it not, in whole or a part, as compensation or rental for the property or plant of the city which the company is allowed to use, and it is not given to the city at all, except as consideration for the use of the property, is it not? A. Well, I don't think that that is specifically stated. I wonder if I have the lease here. No, I haven't the lease here; I have it at my office.

"Q. Well, is it not your recollection that the gas is delivered to the city as compensation for the use by the company of the property of the city which the company uses? A. I know the gas is delivered to the city free of charge. I don't know——

"Pursuant to the contract under which the company uses the city's plant to manufacture the gas? A. Yes."

Now, do you wish to modify or explain or amplify your answer in that connection?

A. I do.

Q. Proceed.

A. In addition to the various sums of money paid by the United Gas Improvement Company to the city of Philadelphia and the $15,000,000 for improvements to be put into the works, as well as the free gas delivered to the street lamps and to the public
3758 buildings, the United Gas Improvement Company agreed at the end of thirty years to turn over the Philadelphia Gas Works to the city without any charge whatsoever or receiving any money in any form for it. Besides that, as showing how exceeding lucrative the past eight years must have been, the United Gas Improvement Company offered an additional sum of $25,000,000 in cash.

Q. When?

By Mr. MATHEWSON:

Q. Is this on record anywhere?

A. In my affidavit.

Q. Yes, but that is not a very valuable record for the purposes of evidence here. Is it in any other record or where is this offer found to which you are about to refer?

A. In the archives of Philadelphia.

Q. You have not the records here, have you?

A. No.

By Mr. BURR:

Q. When was this?

Mr. MATHEWSON: I think I shall have to object to this, Mr. Master. I do not know whether the so-called archives are available to us for explanation.

The MASTER: What do you say to that, Mr. Burr?

Mr. BURR: If he knows of this matter, I suppose he can testify to it.

Mr. MATHEWSON: I do not think it is competent. I have not made that objection in most cases, but here is something I know nothing about and he may refer to a record which is not available to us.

3759 Mr. BURR: You examined him very fully in regard to this situation and I am giving you some further information to explain his answers.

Mr. MATHEWSON: I have not asked him about that.

The MASTER: If this appears in any published proceedings such

as we have hitherto used in this case, like those in Chicago, or Boston or elsewhere, it may go in, but if it is merely hearsay on the part of the witness, I think that objection will have to be sustained, Mr. Burr.

Mr. MATHEWSON: If the paper was here so we could see it and cross-examine upon it and put any parts of it in which we wish to, it might be another thing.

Q. Have you the annual report of the United Gas Improvement Company?

A. I have not. There was a printed cutting from it which was sent to me.

Q. Well, you have seen an extract from the annual report for 1905, have you, of this company?

A. The report of the United Gas Improvement Company at its annual meeting on May 7th, 1906, for the fiscal year 1905.

Q. Does it appear by that report what amount the company claims to have invested during the past eight years in the gas business in Philadelphia at six per cent.?

A. The amount is $16,018,192.22.

The MASTER: The question was does it appear upon that report?

The WITNESS: Yes.

Mr. MATHEWSON: That is all testified to in direct-examination and again in cross-examination.

Mr. BURR: One point of your cross-examination was to
3760 show that this free light which was testified to——

The MASTER: Well, I have it before me, Mr. Burr.

Mr. MATHEWSON: I do not want to embarrass the witness or counsel as to this $25,000,000 offer which was said to have been made, and I am willing to say this, that I will not press the objection of incompetency as to the witness's testimony on that point, assuming that the testimony may be stricken out if we are unable to get the information ourselves.

The WITNESS: I see no reason why you could not get a copy.

Mr. MATHEWSON: I think perhaps we can, and I shall not press the objection if that understanding prevails.

Q. Now, in addition to this amount which you have stated as appears by the report this company invested in the gas business during the past eight years at 6 per cent., did it on April 26th, 1905, make an additional offer to the City of Philadelphia for an extension of its lease?

A. It did.

Q. Will you give us the particulars if you have them.

A. It offered an additional sum of $25,000,000 cash for an extension of its lease for fifty-three years, fixing the price of gas at $1.00 for five years, 95 cents for ten years, 90 cents for fifteen years, 85 cents for twenty years, and 80 cents thereafter. This would make the total investment which — claimed by the United Gas Improvement Company about $41,000,000, of which the treasury of Philadelphia would receive $25,000,000.

Q. So that it is fair to infer, is it not, from this offer, that the result of selling gas in Philadelphia at an average of 78.1
3761 cents as you have testified has proved enormously profitable?

Mr. MATHEWSON: I object to that, whether it is fair to infer.

The MASTER: Cannot I be trusted to draw that inference?

Mr. BURR: Well, I will say, has proved profitable.

Mr. MATHEWSON: I make the same objection, that it is fair to infer. Is that a fair question?

The MASTER: I do not think that adds anything to the testimony.

Mr. MATHEWSON: Gas was never sold for 78 cents in Philadelphia, as the witness admitted on cross-examination. It is sold now for $1.00 to every consumer.

Mr. BURR: The testimony is that it is sold at 78.1 cents.

Mr. MATHEWSON: There is no such testimony.

The MASTER: I sustain the objection and you can have the witness' answer.

Mr. BURR: Exception.

A. It must be profitable or they would not offer to pay such a large sum for it.

Q. Now, referring to page 2477, as the result of previous testimony given by you in answer to the questions of Mr. Mathewson by which it was made to appear that $4,000,000 would be necessary for additional plant to meet the requirements of the additional consumption to which you had referred as being imminent in 1907, you were asked, referring to that $4,000,000 on page 2477: "Was it included in the $40,000,000 which you say were the company's figures?"

A. The company's figures have been taken by me at all times as doubtful and subject to verification. If I was computing
3762 the capacity of works which could be built for $40,000,000, stated structural cost, I would put the capacity at about 20,000,000,000 cubic feet annually.

Mr. MATHEWSON: The question is whether it was included in the $40,000,000 of the Company's figures.

The WITNESS: I would say that this $4,000,000 would by me be included in the $30,600,000 allowed as actual structural cost and also in any larger sum that might be suggested where the capacity was not greater than 15,300,000,000 feet.

Q. On page 2482, being still under examination with regard to your chart, showing the probable increase in sales for 1907, you were asked the question:

"The increase in the sales of gas which you say was due to the reduction in price. You gave the amount in your direct testimony and stated the increase of sales of gas in those two years was so much and that it was due to an increase in price.

"A. I gave the increase in the sales of gas per capita.

"Q. Yes, I mean per capita. A. At 929 cubic feet. You wish that divided by 50 cents?

"The WITNESS: That is about 18.6 cubic feet, one-fiftieth.

"'Q. Is it not the 929 feet that you divided by 33 to obtain 46.46? A. Yes."

Do you wish to add anything to that answer or explain it?

A. It was a fact that I divided 1533 cubic feet by 33 to obtain 46.46 feet per one cent of reduction in the price of gas. My reply was due to a misunderstanding.

3763 Mr. MATHEWSON: You fully explained that on the next page.

The WITNESS: It was an omission in the previous evidence.

Mr. BURR: Well, we wish to emphasize that evidence.

Q. On page 2485 you were asked, "Is it possible to maintain an average candle power of only 22½ candles monthly record, and at the same time at all times keep the candle-power on test by the city a mile from the works above 22 candles? A. There are certain periods of—— Q. I asked you a direct question. Will you not give me a direct answer for once? A. Yes."

Do you wish to explain that?

A. Yes, referring to Field's Analysis for 1904, page 2, we find the standard or prescribed candle-power to be 16 and the average furnished to be 16.52 candles. This is the Gaslight and Coke Company. Also referring to Field's Analysis for 1905, page 2, we find the standard or prescribed candle-power to be the same and the average furnished to be 16.48, showing the average furnished for the two years to have exceeded the standard of 16 candles by one-half candle and showing the practical possibility of realizing the result stated by me in the practical operation of gas works selling 22,500,000,000 cubic feet annually.

Q. Have you any further informtaion on this subject from the books of the Consolidated Gas Company?

Mr. MATHEWSON: What subject is that, about candle-power?

Mr. BURR: Yes.

3764 A. Yes. Since testifying I have been handed the monthly report of manufacturing averages and results of the Consolidated Gas Company for the year 1905.

Q. What appears from that?

Mr. MATHEWSON: Has that anything to do with candle-power? I thought this was redirect upon the subject of Professor Marks' testimony before the examination of the records of the Consolidated Gas Company and I proceeded upon that basis in my cross-examination. If you are going to inject on redirect new matter based on that examination, and then further new matter later based on that examination, it seems to me it will chop things up a good deal.

Mr. BURR: You have gone into the cross-examination of both Dr. Bemis and Dr. Marks as to candle-power and candle tests and he has made a statement here which you have challenged by your cross-examination. He now explains the statement made in response to your questions on cross-examination, and fortifies the position he has taken there by information which has come to him now and which he offers to produce here. I think that is clearly within our rights.

Mr. MATHEWSON: May I see what you propose to go into. I may not have any objection if you limit it.

Paper handed to Mr. Mathewson.

Mr. MATHEWSON: If this is limited, I am not going to object to this particular thing, but I do object to the principle very seriously. Here is Marwick, Mitchell & Company's accountants' statement, if the Master pleases, and Marwick,
3765 Mitchell & Company get this up while they are examining our books and pass it out for the purposes of this redirect-examination. I do not think it is the fair or proper thing to do.

Mr. BURR: I wish to protest against any such statement. We are either in the office of the company for the purpose of obtaining information or we are not. If we are there for the purpose of getting information, that information is for our use in this case; and if Dr. Marks asks the accountants to procure for him whatever information that could be procured with regard to these matters that are contained in this statement, that is not spreading it broadcast. That is for the use of the defendant, the City of New York, in this case, and it is for that purpose that I procured it, and it is for that purpose that I offer it as part of the record.

Mr. MATHEWSON: It is not a question of spreading it broadcast. It is a question of where I have been asked to cross-examine the witness to get that out of the way, and then your importing into the redirect-examination results of examinations regarding which I had had no opportunity in my cross-examination to deal with at all. That was something which was to be postponed. In this particular case I do not object to it, but I do not like the principle of the thing, and I shall object to its being done continuously, if it is attempted.

Mr. BURR: There is no intention on my part to do anything with regard to information that may be given by the accountants further than in this instance, but while we are on the subject of candle power——

The MASTER: Then there seems to be no substantial issue
3766 between you gentlemen as the matter stands.

Mr. BURR: I thought it well to have this information supplied to fortify, as I said, the position taken by Doctor Marks.

Q. Referring to that statement which you have produced, you may state what it is?

A. It is a tabulation of the monthly record of manufacturing averages and results of the Consolidated Gas Company for the year 1905.

Q. By stations?

A. Showing the data for the five manufacturing stations, given separately.

Q. Taking the 14th Street station for the year 1905, what does the yearly average appear to be there?

A. The yearly average appears to be 25.62 candles, and the highest average is for the month of July, 30.38 candles.

Q. And for the other stations?

A. For the 21st Street station the yearly average appears to be 26.03 candles and the highest average 27.72 candles for July. For the 42d Street station the yearly average appears to be 24.25 candles and the highest 26.36 candles for July.

For the 44th Street station the yearly average appears to be 25.32 candles and the highest 28.06 for July.

The 99th Street station, the yearly average is not complete but in part appears to be 25.24 candles, with the highest average for the month of July 27.19 candles.

Q. The average of the whole year for all stations appears to be what?

A. Average candle power, coal and water gas stations, is 25.35.

Q. What is the average of candles above the average legal requirement of 21 candles for the year?

A. The average of the legal requirement is 21 candles, being 20 during the first six months and 22 during the last six, which
3767 shows an average excess of about 4.35 candle power throughout the year. I have already stated that I believed the candle power to be unnecessarily high and the use of oil extravagant, and offer this to substantiate it, outside of the records of the City which I used in making my first statement.

Mr. BURR: I offer that in evidence.

Received in evidence and marked City's Exhibit 62.

Q. I call your attention to page 2498 of the testimony where you were being examined regarding the price of oil and as a conclusion of the answers which you gave before, Mr. Mathewson says:

"If that statement is correct then the price paid by the Consolidated Gas Company for oil within that period, 4.08 cents, was considerably less than the average price paid by all the other companies in the State of New York, 4.25 cents, is not that true? A. That is true."

Do you wish to explain or amplify that answer?

A. Yes. In no case was I dealing with the average of the whole State. I tried to make it very clear that the use of oil was relatively so enormous in New York that the Consolidated Gas Company should have received a price far below that received by any other small corporation using oil in the manufacture of gas. In order to show that this difference in the stated price of oil, given by Brown's Directory, does not appear to be a matter of locality, I have prepared a map of the State of New York, giving the localities and prices paid for oil, and it will be observed that those companies paying 4 cents or less for oil are intermingled with companies paying over 4 cents, and quite regardless of geographical position. From this it might be in-
3768 ferred that the price of oil depended largely on the care exercised in its purchase, and not upon the location of the town in which it was bought.

Q. Will you produce the map, for the inspection of the Master, showing the geographical location of these cities?

A. (Producing map). The red ones are over 4 cents, the black ones are 4 cents or below.

Q. A good deal of time was consumed by Mr. Mathewson in examining you as to what you meant by the word "surplus," and on page 2503 of the testimony he said:

"I am trying to find out what you mean and what you refer to in

your testimony and nothing further. I read from page 2823 as follows: 'By the Master: Q. What you mean by that is that the surplus has been expended in the purchase of securities of other companies? A. Yes, sir.' Now, what surplus did you refer to there which has been invested in the securities of other companies? Didn't you refer to the surplus which the Consolidated Gas Company had made in its gas business, because it had no other business until it invested in the securities of other companies? A. I referred to its visible possessions, State's Exhibit B, page 382."

Now, in what sense did you use the word "surplus" in that connection?

Mr. MATHEWSON: If he did not explain it in the next three or four pages of his testimony, he never can.

A. My use of the word "surplus" was clear to me in the ordinary business sense, as being any sum of money which a firm or corporation had invested outside of and beyond the capital demanded

3769 in the transaction of its professed business. In the case of the Consolidated Gas Company, I meant to convey that, if the Consolidated Gas Company had invested in other than gas enterprises, any sums, no matter from what source these sums were derived, or how they were obtained, they would form a surplus above its requirements.

Q. In what manner does the word "surplus" touch upon the future profit from gas manufactured, of the Consolidated Gas Company?

A. If, however, as appears from the books, the source of profit in the Consolidated Gas Company was almost entirely the manufacture of gas, and its investments in other enterprises returned very small or no dividend, then, in addition to the surplus already referred to and defined by me, it appears to have mortgaged for the future the surplus profits of the gas business in paying dividends on a very large capitalization, far beyond the needs of the gas business alone.

Q. Can you put this in a more concrete form?

A. Yes, the Consolidated Gas Company appears to have issued $80,000,000 in stock and $20,000,000 in six per cent. debentures, and to have recently paid eight per cent. on $8,000,000 or $6,400,000 annually, and six per cent. on $20,000,000 debentures or $1,200,000 annually, a total of $7,600,000 annually, all of which would, with the exception of the one million dollars received from electric light company investments, appear to be derived from the profits of the gas business. Eight per cent. on $30,000,000 which is the amount fixed by the Gas & Electricity Commission as a proper capitalization, is $2,400,000, which subtracted from $6,600,000 leaves $4,200,000, which might be called surplus profit derived from the gas business, over and above a fair rate of dividend from a proper capitalization, as stated by the Gas & Electric Commission.

3770 Q. Referring to your testimony on page 2533 I think you have already stated that it is a fact that at the end of thirty years the U. G. I. Company is to return the gas works free of all charge and without the payment of any money whatever, to the City of Philadelphia?

A. I have.

Q. Referring to your testimony on page 2551, and your testimony as it appears there regarding the gas works at Worcester, Massachusetts, and your statement that the Massachusetts Gas and Electricity Commission might have reported the capacity as too much, do you wish to explain further in that connection?

A. Yes. It would appear to me in taking the statement of the Gas and Electric Commission, knowing as I do that they have the statements from the various officials of the various works as there was at that time no particular reason to bias them, that the statements made by the managers were about averages. In the case of the Worcester Company I would say that the actual structural cost of the Worcester Gas Works appears to be $1.54, per annual thousand, and that the average which I have used is $1.78, and therefore that there is an excess allowance of 24 cents in the average used above the Worcester Gas Works stated actual structural annual cost per thousand cubic feet; that is the actual structural cost as reported by this company.

Q. At pages 2558 and 2559, you were being examined regarding the cost of the real estate of the Consolidated Gas Company and your comparison of the conditions which existed in Massachusetts with the conditions which existed here, so far as the Consolidated Gas Company is concerned, in the Borough of Manhattan?

A. In explaining that I would say that the cost of real estate is taken per annual one thousand cubic feet of capacity and that it appears generally——

3771 By Mr. MATHEWSON:

Q. Where is it taken here? In your testimony?

A. In my testimony.

Q. Pages 2558-9?

A. Yes. And as a result where the output or sales become very large the land is also apt at the same time to become valuable, increase in value, except under exceptional circumstances, so that there is a counterbalancing of the two factors which perhaps can be best illustrated by a reference to the 21st annual report, Massachusetts Gas and Electric Light Commissioners, for the calendar year 1905. On page 117 of that report the total sales of gas—not the total capacity, but the total sales of gas—are given as 10,410,000,000 cubic feet in a year in the whole State of Massachusetts. Now this does not differ very far from the amount of gas stated to be actually manufactured on the Island of Manhattan by the Consolidated Gas Company's stations.

Q. That has already been referred to at length.

A. (Continuing:) and I am also advised that the 10,410,000,000 Massachusetts sales has in it a duplication to a very considerable amount, which would reduce that. If the two quantities happen to be about equal though, then according to my method the value of all the real estate used by all the gas companies of the State of Massachusetts would have to be about the same as the value of the Manhattan real estate owned by the Consolidated Gas Company, since the output or sales of gas by all the companies in Massachusetts is about the stated sales of gas manufactured on the Island of Manhattan.

Q. Now referring to page 2561 and page 2355, a mistake appears there in enumerating the consumers' deposits of the Fall River Gas Company, does there not?

A. There is.

Mr. MATHEWSON: I called his attention to the fact. He
3772 misplaced an amount and he corrected it on that page and on page 2562. Instead of $429.85 it should be $2,193.

The MASTER: That is corrected on page 2562.

The WITNESS: And on page 2355 the total of all four companies should be $638,928.81. I would also add that the error is so small that the result of thirteen cents per annual thousand cubic feet sold does not differ but very slightly—immaterially—from the first figure found.

Q. Nor would 4.78 cents differ materially from the figure found, would it?

A. No.

Q. When you include the notes payable?

A. No, not a particle.

By Mr. BURR:

Q. Now, if you subtract the total of these floating liabilities, $638,-928.81, from the working capital, $852,249.94, you obtain $213,-321.13, do you not?

A. Yes.

By Mr. MATHEWSON:

Q. In place of $215,084.28?

A. Yes, sir.

By Mr. BURR:

Q. That representing the active capital furnished by stockholders for the needs of the gas business?

A. It is.

Mr. MATHEWSON: He changed that and said he had made a mistake and did not include notes payable. Are you going to have him testify to that over again and have me correct him again?

Mr. BURR: You have desired a change of notes payable into a bond?

3773 Mr. MATHEWSON: Not at all. I take the Massachusetts Commission's estimate of notes payable as capital.

The MASTER: That was made very clear, I think.

Mr. BURR: I think so.

Q. If you divide this amount, $213,321.13 by the actual total annual sales, 1,653,012,000 feet you obtain what?

A. Thirteen cents per annual thousand cubic feet sold. That is the amount of capital found to be necessary to be obtained from stockholders.

Q. Turn to page 2565, where you were asked to distinguish if you could tell the difference between working capital and active capital. What have you to say as to that?

A. I would say that a working capital is whatever fund is required to move the business of the gas company along, no matter how obtained, and that the active capital is the raised capital contributed by the stockholders, but not invested in permanent works or plants. The fact is that the Massachusetts companies appear to utilize a working fund of 48 cents per annual thousand cubic feet of sales, of which they have raised as active capital by stock subscription 13 cents and by borrowing in various forms 35 cents. In my opinion borrowed money is a liability and until funded in some form of long termed security must be reckoned with as a possible quick liability at any time. The fact that the Commissioners in Massachusetts or their statistician chose to regard what was stated on the balance sheet as notes payable as bonds does not convert notes payable into bonds.

Q. Referring to the subject of consumers' deposits on page 2570, Mr. Mathewson asked you this question:

3774 "Then the company would not be entitled to earn in that event on the money that it used as working capital merely because it was really a fund which was constituted by consumers deposits, is that right? A. I could give you a concrete case, in the case of the Consolidated Gas Company, if you like.

"Q. No, I don't want a concrete case. I am asking you what your testimony is, because it bears directly upon your testimony given here."

Do you desire to make any statement with regard to consumers' deposits?

A. Yes.

Q. Can you give me a concrete numerical statement of your views as to the use of consumers' deposits?

A. Yes. The custom seems to vary in gas companies regarding these deposits, some companies paying interest on these deposits, and other companies returning them without interest. These companies consumers' deposits are an insurance fund, and by some companies are set apart as a special deposit drawing interest, and by others are used as part of the working capital.

If the gas company received interest on its special deposits, and does not pay interest, it received a profit on capital which it has not contributed. If the gas company received interest, and pays equal interest on a special deposit, it has then the benefit only of an insurance fund. If the gas company uses the consumers' deposits as a working capital, but does not pay interest, it is not entitled to a profit on the amount of the consumers' deposits. If the gas company uses the consumers' deposits as a working capital, and pays interest to the consumers, it will appear proper that an allowance should be made of this interest to a consideration of profits justly to be claimed

3775 by the company. All this, however, is a matter of the profit and loss account, and should not enter into the cost of gas.

In making use of the word "insurance" I would say that insurance resulting from a consumer's deposit differs from fire insurance because the party who insures against fire does not put the total amount of that insurance in the hands of the party insured, while the consumer making a deposit to insure the gas company against loss does so by putting the actual cash of his deposit in the hands of the

gas company, thus furnishing capital as well as furnishing insurance.

Q. Mr. Mathewson again adverted to the subject of notes payable on page 2579, but I think you have already fully explained your views on that subject in connection with the Fall River Company, and that also applies to the Cambridge Gas Company, does it not?

A. It does.

Q. That is, that the balance sheet of that company shows notes payable and you claimed that notes payable are not bonds, no matter whether the Massachusetts Gas Commission or any other parties may chance to call them so.

Mr. MATHEWSON: When you say "the balance sheets of the company," do you refer to anything more than is published here in this volume of the Massachusetts Gas & Electric Light Commissioners?

The WITNESS: All to which I have had access.

The MASTER: I do not get the point of the answer on page 2579. As I understand it, the Massachusetts Gas Commission does not say that notes payable are bonds, they simply include them as capital.

Mr. BURR: But Mr. Mathewson claimed that notes and
3776 bonds were, for the purposes of the Gas Commission, regarded by them as capital.

Mr. MATHEWSON: Notes payable. Notes payable are limited under the term "Capital per thousand sold, including bonds." In other words, they are included in the term "capital," not in the term "bonds."

The WITNESS: May I explain to you in regard to the matter that in Massachusetts, with the exception of Boston, the companies are thoroughly under the control apparently of the Massachusetts Gas Commission, and this Commission prevents them, until they can make a good showing of assets, from issuing further securities and the consequence is that they borrow money on notes more frequently than companies do elsewhere.

Mr. MATHEWSON: I am glad to hear that they are under the control of the Gas Commission. Professor Bemis seemed to object to my use of the word "permit," and so forth, in connection with the Gas Commission.

The WITNESS: With the exception of Boston, I said.

Mr. BURR: What he meant by control was that they might limit their prices.

Q. On page 2583 you were examined with regard to the capitalization of the Consolidated Gas Company of New York and its comparison with the existing conditions in Massachusetts and you made some statement on that page with regard to active capital and borrowed capital and the division of the same. Will you explain that if you can?

The MASTER: Exactly what, Mr. Burr?

Mr. BURR: As regards his division of the two.

3777 Mr. MATHEWSON: He merely explained there——

Mr. BURR: How would he divide the figures that he gives there into active capital and borrowed capital so as to show the total working capital?

A. Referring to the amount of $6,375,918.52, figured at the bottom of page 2583, I have recomputed it somewhat more accurately and put it in concrete form to correspond with existing conditions in Massachusetts. First, active capital furnished by stockholders $1,726,811.32, borrowed capital or working fund $4,649,107.20, making a total working capital of $6,375,918.52, which would appear to be the amount of free funds, investments, bills, liabilities and so forth required under the same conditions as those in Massachusetts, by the Consolidated Gas Company of New York City. The difficulty with this borrowed capital is that its destination in Massachusetts is not stated. That is, the way it is used; whether for the purchase of materials or the transaction of business or whether invested in a fixed or in a new plant. It may be used for either one or may be used for both, according to the necessities of the company and its future plants.

Q. Now in your chart showing the probable conditions of the gas business in 1907 in the Borough of The Bronx, and the examination of Mr. Mathewson regarding the figures which you gave as applicable to what you computed as to consumption of population, your attention was called to a report of Burr, Herring and Freeman, particularly as to the statement contained in that report as to what the probable population would be of the Borough of Manhattan in the year 1825. Have you looked into this matter of population any further because of your attention having been so drawn to
3778 that statement in that report?

A. Yes, I have. Taking a good deal of trouble looking the matter up, procuring from the department the copy of Burr, Herring and Freeman's Report.

Q. What do you find that report to be or to be based on?

A. It is a collection of papers from various parties, as well as from the gentlemen named. I find that they give as the authority Appendix 10, but it is so carelessly put together that on referring to Appendix 10, I find it to be a list of the employés of the Water Department. They also——

Mr. MATHEWSON: You do not understand that that 1925 is to be made up exclusively of the employés of the Water Department?

Mr. BURR: No, but that may be the reason for the increased water supply.

The WITNESS: (Continuing:)——tracing it further, I find that Messrs. Burr and Herring have relied entirely on Mr. Freeman who published a report in the year 1900. This report of Mr. Freeman in the year 1900 was with regard to the future demands of water anticipated on the part of Greater New York.

Q. You mean the future demands for water?

A. Yes, on the part of Greater New York. Mr. Freeman has laid off in a diagram a number of curves, stating that the increase might be 20 per cent., twenty-five per cent., or thirty per cent. in a decade, and he has started from existing conditions in each of the boroughs, considering them, and then proceeded on these assumptions to prophesy as to the future, but in the case of the Island of Manhattan

Mr. Freeman announces there are to be a very large indefinite number of bridges and apparently cut it off at 2,130,000 population.

3779 By Mr. MATHEWSON:

Q. For 1925?

A. For 1925. That is some twenty years from now.

By Mr. BURR:

Q. In other words, at a certain period the Borough of Manhattan will begin to be depopulated?

A. Yes.

Q. Now, have you consulted any other report in addition to the report of Mr. Freeman?

A. Following this very unsatisfactory investigation and result and method I visited Mr. Diverona, the head of the Water Department of New York and found that he had completed and had in manuscript his prognostications with regard to the future of New York, but it was not yet published.

Q. Did you take any figures from his report?

A. Mr. Diverona had quite a number of figures but as my own work was very narrowly limited, I simply took his figures for 1906, Mr. Diverona's that is this year, the end of that year.

Q. He is the chief engineer of the Water Department?

A. He is the chief engineer of the Water Department, and he says the population of the Island of Manhattan will be 2,464,000. For the year 1907 he states that the population will be 2,541,000. In my own case, reasoning closely but perhaps with not as great facilities in the matter of data, I obtained on the diagram 2,217,295.

Q. There is a difference of how much between your estimate and Chief Engineer Diverona's?

A. Making a difference of about 124,000, that I am below Mr. Diverona's figure. Regarding this chart and populations on it, I would say that it is only one of many charts covering the whole of Greater New York that I have made. And in getting out this
3780 chart I was very careful to hold myself to numerical figures, that is to say in anticipating the population I only anticipated it for two years beyond 1905, that is to the end of 1907, and I took the population for five years back, the difference in populations, and divided it by five and then multiplied it by two and obtained a uniform period of seven years from end to end, five back and two ahead, which I think gives very close and very conservative results as to population.

Now, in regard to the question of the increase per capita, I took as you know the increase per capita for two years only. Of that two years only twelve months was a period which involved a reduction in the cost of gas. Now, for that reason, I was obliged to confine myself to two years because there is but one year of 80 cent gas which is hoped for ahead. Of course at the end of two years of 80 cents gas I presume that the sales per capita would be considerably more than the 10,000 which is about what I had reached.

Recess until 2.15 P. M.

After Recess.

WILLIAM D. MARKS resumed.

By Mr. BURR:

Q. Your attention was called yesterday in the cross-examination by Mr. Mathewson to the manner in which stove rentals were treated under the English system as appears by Field's Analysis. Have you any comment to make in that regard, regarding stove rentals or stove repairs?

3781 A. Referring to Field's analysis, pages 3 and 4, it will be observed that on page 3 the average stove rental of the Metropolitan Company is .82 of a penny per thousand cubic feet, and on page 4, that the average stove repairs is .74 of a penny per thousand cubic feet of sales; the result being that the two amounts very nearly equal each year, and, in my opinion, is the result of an endeavor to neither make nor lose money on stoves, put out for the purpose of increasing the sales of gas.

Q. In your opinion, if I understood you correctly yesterday, you stated with regard to repairs to gas stoves, that that should be part of the expense of a plumbing department and should be a matter which would be closed out in the profit and loss department?

A. I did, and I think anybody else trying the experiment will find that it is clearer and better. Unless that is done you never really do know the precise amounts of money you are making or losing until at the end of the year.

Q. And I understood that was your opinion also with regard to the item of consumers' deposits?

A. Yes, sir; that they should go to profit and loss account.

Q. You explained, I think fully, yesterday your opinion, as to what should be done with interest on unpaid taxes in that, if I understand you correctly, that was a proper charge to be entered in and kept in suspense account?

A. Yes. It appears to me to be almost a matter of course. Were it not suggested, I cannot imagine any business man or bookkeeper doing otherwise, than placing it in suspense account, until matters were finally adjudicated.

Q. And on page 3670 of your testimony yesterday, your attention being drawn to the item of $289,000 lamp account, public lamps, as chartered in Exhibit 94, Mr. Mathewson said:

3782 "Well, you know in the present case the money is charged but not yet paid to the company."

Do you understand that that appears in Exhibit 94 because that money has not yet been paid to the company or do you understand that the Consolidated Gas Company claims that that is a proper charge in the operating expenses and indirectly to be charged up against the cost of gas?

A. The street lamp account is usually a separate contract account against which is charged all the expenditures and to which is credited all the receipts. The difference between these two at the end of the term of the contract or at the end of a fiscal year is closed by a balance, which balance should either be charged or credited to profit

and loss according as to whether the contract results in a loss of money or in a profit.

Mr. BURR: That is all.

Recross-examination by Mr. MATHEWSON:

Q. You understood my question yesterday to be, did you not, Professor, as to whether stove repairs were carried into the expenditures for gas and stove rents were carried as income instead of carrying in the balance between the two as you advocated?

A. Yes.

Q. And you found that in Field's Analysis they did carry the stove repairs as part of the cost of the gas and carried income separately as an income, you will remember, didn't you?

A. May I look at my papers?

Q. Yes.

A. Yes, but——

The MASTER: Now, Doctor, remember that we have very little time this afternoon. Just answer the questions and Mr. Burr will take care of you.

3783 Q. It does not appear by Field's Analysis that their method of treatment of stove rents and stove repairs depends upon the amount of one as compared to the other, does it?

A. It does not.

Q. And in some companies as appears by Field's Analysis the stove rentals appear to differ very substantially from the amount of stove repairs?

A. Referring to what?

Q. Page 4, for instance, for the South Metropolitan Company, stove rental amounts to 1.03 pence and stove repairs to only .76 of a penny?

A. For what year?

Q. 1905.

A. I judge that is an exceptional instance.

Q. Take Brentford, the first of the suburban companies, it appears there that the stove rentals is .81 of a penny while the stove repairs are 2.14 pence or more than 2½ times as great, is not that the fact?

A. I referred more particularly——

Q. Is not that the fact?

A. That is the fact.

Q. So that it does not appear that there is any difference in the method of treatment of stove rents and stove repairs by the English accountants, depending upon whether one is greater than the other or not. That is so, is it not?

A. I referred in my testimony——

Q. Won't you answer my question. Is not that the fact?

A. I cannot draw that inference because I don't know how that is treated.

Q. But you have used this book and commented upon it. Won't you point out any case in which the stove rent and stove repairs is

treated differently by reason of any variation between the amount of the two items so far as it appears in Field's Analysis?

A. I don't know of that. I mentioned the facts in the case of the Metropolitan Company.

Q. That they happened to pretty nearly balance in that case?

A. For the reason that I stated.

3784 Q. You have referred to Burr, Herring & Freeman's report? Who is Mr. Freeman, do you know?

A. Mr. Freeman is an engineer and specialist in hydraulics.

Q. And has been connected in an advisory capacity with the defendant, the City of New York, for a considerable time, hasn't he?

A. I don't know. I know he has done work for the City for some time.

Q. Did you find that Mr. Verona's figures or estimate of the population of the Borough of Manhattan were carried up as far as 1925?

A. They were not.

Q. Don't you know that in many portions of the Borough of Manhattan in many districts the population is decreasing, as the census has shown, from year to year?

A. I have not made a sufficiently careful study of that to be sure on that point.

Q. In computing the assets per thousand of capacity in the Boston Consolidated Gas Company you have employed 28,000,000 feet as the daily capacity?

A. By your request.

Q. Well, what should be the daily capacity according to your investigation?

A. I have that memorandum somewhere but not with me.

Q. Is it not a fact that the 28,000,000 feet included the capacity of the New England Gas & Coke Company, which is not a part of the Boston Consolidated Gas Company at all?

A. (No reply.)

Q. You say you have read over the Boston testimony, Professor, and it all appeared in the Boston testimony?

A. Frankly, the 28,000,000 cubic feet of which you speak, is to my mind a quantity which is in excess of the Boston make, as near as I can recall having read it.

Q. Is it not your recollection that the total capacity of the Boston works, excluding the New England Coke & Coal Company, which is not part of the Consolidated Company, is something like 21,000,000 or 22,000,000 feet per day?

3785 A. I have not the figures with me and would not care to venture on a guess.

Q. I think the figures appear in the Boston testimony, which you said you had examined, and I thought perhaps you had noted the capacity?

A. It is a question of memory entirely. I can look it up if you like.

Q. But your memory being, and I think it is correct, that the capacity of the Boston Consolidated Gas Company's plant is actually less than 28,000,000 feet, if the capacity items were corrected to the

fact, it would show a larger amount of assets per thousand feet of capacity than that which you gave, would it not?

A. Acting as your computer, and dividing a smaller amount into the amount which you gave me as their assets, I presume the result would be larger.

Q. I did not give you anything as their assets. I asked you to look at the Massachusetts Gas Commission report which you had been using as to other companies, and you will remember you took the assets from that, did you not?

A. Acting as your computer, solely.

Q. Yes. But you took the assets from the Massachusetts report and not from me, didn't you?

A. Yes, acting as your computer.

Q. And on the other hand if the 28,000,000 cubic feet daily capacity includes the New England Gas & Coke Company's capacity, that is, if you use the 28,000,000 feet as the divisor, you should also include the assets of the New England Coal & Coke Company, to be consistent, should you not?

A. I presume you are right, if you wish me to compute.

Q. No, I do not. I am merely getting at the principle. I am not trying to entangle you, but am merely trying to get at the facts. Now, you said that the Boston assets per thousand feet you
3786 considered excessive and stated your reasons why. Will you let me see that book from which you read incorporating some report from the Committee on Manufactures of the Massachusetts Legislature?

(Book produced by witness.)

Q. Do you remember the date of that report?

A. It is at the head of it.

The MASTER: 1900, was it not?

Mr. MATHEWSON: Yes, June 11th, 1900.

Q. Now you referred to nine Boston companies in this connection. To what Boston companies did you refer as the nine companies?

A. As given in the list.

Q. On page 178?

A. Yes.

Q. Bay State, Boston, Brookline, Charlestown, Dorchester, East Boston, Jamaica Plains, Roxbury and South Boston. Now, you don't understand, do you, that those nine companies are all part of the present Boston Consolidated Gas Company?

A. I do not.

Q. So that any remark generalized on those nine companies would not necessarily be applicable to the Boston Consolidated Gas Company, would it?

A. The two companies, East Boston and Charlestown, mentioned in the list on page 178 are comparatively small companies as compared with the others which are in the Consolidated Gas Company and therefore would have very little effect upon the totals which are mentioned in this table as the rest of the companies, I think are all in the Consolidated.

Q. Do you know that the Massachusetts Pipe Line Company,

which is not mentioned in this table at all, is also one of the constitutent companies of the Boston Consolidated Gas Company?

A. I do.

3787 Q. Now, in connection with these nine companies you took occasion to say that the assets were less than the capital stock as I understood you. Is that correct?

Mr. BURR: He read from the report.

A. I quoted——

Q. I understand, but I am asking if that is a correct statement?

A. I quoted the report to that effect.

Q. To that effect?

A. Yes.

Q. Let us see if that is right. This you will remember was in 1900. It states here that——

Mr. BURR: What are you referring to?

Mr. MATHEWSON: To the same document, pages 178 and 179.

Q. That it had been the practice of the Boston Roxbury and South Boston Companies not to charge anything to depreciation but to charge all new work to construction. And you observe too at the top of page 179 that it says these companies had accumulated a large surplus?

A. Yes.

Q. So that if the companies instead of charging down their plant to depreciation by a certain amount had instead of that accumulated an equivalent amount in surplus they would be just as well off, would they not, as though they did not show that surplus item, but had charged down the corresponding amount in depreciation?

A. The Committee does not think so, and so states.

Q. Well, don't you think so now?

A. I agree with the Committee.

Q. Then if the plant of a company had shown a depreciation to the extent of $200,000 and had charged it down to that amount and shown no surplus, you don't think that company would be as

3788 well off as though it had charged down nothing to depreciation and showed a surplus of $200,000, do you? And if you don't think it would be as well off, I would like to know why?

A. Because in the case where there was a depreciation which was not properly charged off the books would be sophisticated——

Q. No matter about the books being sophisticated. I am asking you a straight question, Professor. Will you read the question which I did ask?

(Question read by stenographer.)

The WITNESS: That question is not clear. There seems to be a contradiction in it.

Q. Are you unable to answer it?

A. Kindly read it by sections.

(The stenographer read part of the question as follows: "Then if the plant of a company had shown a depreciation to the extent of

$200,000 and had charged it down to that amount and showed no surplus"——)

The WITNESS: Charged what down?

Q. The plant down by that amount?

A. The plant account or capital account?

Q. Yes, either you please, both, each.

A. Reducing the assets by $200,000?

Q. Charged it down $200,000, the book assets that I am referring to, yes, if you please.

A. Now the next section.

(The stenographer then read the remainder of the question as follows: "You do not think that company would be as well off as if it had charged down nothing to depreciation and showed a surplus of $200,000, do you?")

The WITNESS: In using the phrase well off, do you mean well managed?

3789 Q. No, I mean as well off in assets.

A. I presume there is no practical difference in reality if there is an actual surplus instead of a credit upon the books.

Q. But you observe at page 179, that the Committee find that these companies have, besides paying the dividends to their stockholders, accumulated a large sum of money which is sufficient to secure the stockholders and so on—"a large sum for depreciation," so that you see in that case the Company had actually accumulated a surplus according to the report of the Committee, had they not?

A. It is so stated, but the figures bear no proper relation to the actual condition of the companies and do not relate these conditions accurately.

Q. Do you consider capital stock in accounting and bookkeeping as a liability against assets?

A. It is usually written as a liability.

Q. Pardon me?

A. It is usually written as a liability.

Q. Well, generally speaking, in bookkeeping, when you show your assets on one side of the account, you show on the other side corresponding items of liability which include obligations of various kinds, including capital stock, don't you, in order to produce a balance?

A. In order to produce a balance.

Q. Now, you have referred to the Brookline Company and commented upon the Brookline Company, which is one of the eight companies which formed the Boston Consolidated Company, as having assets less than the total liabilities, in other words, as having a deficit instead of a surplus, but you did not call attention to any of the other companies. Now, I want you to look at this table on page 178, showing the nine companies, and say if every other one of the eight companies therein mentioned does not have a surplus above its liabilities, in other words, whether the assets of each one of

3790 the other eight companies do not exceed not only the capital stock but the total liabilities of the company?

A. Yes, and it is so stated by the committee quoted from.

Q. So that taking those companies together it does not follow at all their assets are less than their capital stock or less than their liabilities including capital stock, does it?

A. I was speaking of the book assets given in the tabulation on page 178, headed "Total Assets."

Q. That is what I am talking about. So that it appears by the final column, does it not, that these nine companies had accumulated surplus, that is to say, assets over liabilities in each case to the following extent:

Bay State	$252,730.44	Surplus
Boston	4,564,059.83	"
Charlestown	87,681.85	"
Dorchester	210,307.04	"
East Boston	79,071.22	"
Jamaica Plains	156,449.68	"
Roxbury	431,506.36	"
South Boston	148,120.97	"

Against which is Brookline with a deficit of $303,595.75, or a net surplus of the nine companies above liabilities of $6,233,523.14. Is not that right?

A. No.

Q. Is not that total right as it appears in that column or have I misread it?

A. The strongest possible imputation of sophistry——

Q. Will you be kind enough to answer my question and not argue about sophistry, because I shall have to argue about that if you do?

A. Repeat the question.

The MASTER: Is the total right, is the question.

3791 The WITNESS: No.

The MASTER: Where is it wrong?

Q. Will you read the total in the last column——

Mr. BURR: The Master has asked where is it wrong.

The WITNESS: The total is $6,233,523.14, and you have spoken of a surplus. It is a correct book account. I will not acknowledge it is a surplus in existence.

Q. Did the committee in dealing with these companies have anything else before them so far as appears from this statement and from their report except the reports of these companies to the Massachusetts Gas Commission?

A. I know nothing more than the Committee states.

Q. Very good. Now let me read:

"The following table computed from the returns of these companies to the Board of Gas & Electric Light Commissioners for the year ending June 30th, 1899, discloses some of the most important facts relative to these companies."

Then immediately after that follows the table to which I have called your attention, does it not?

A. Yes.

Q. So that this surplus "Accumulated surplus" in the last column

amounts to something like 50 per cent. more than the total liabilities including capital stock, does it not, of those nine companies?

A. Do you refer to the figures there or do you refer to the existing surplus?

Q. I refer to the figures there, which are the only figures
3792 that the Committee had before them or upon which they comment.

A. The figures there $6,233,523.14, appear to be in the neighborhood of two-thirds of the actual stock, $9,000,000.

Q. In other words, the capital stock of the company appears, does it not, to be $9,029,600 by this table?

A. Yes.

Q. And the total liabilities including capital stock appear to be $13,709,206?

A. Yes.

Q. And the accumulated surplus of $6,233,523.14 would be something like 66 per cent., would it not, of the capital stock?

A. 66 per cent. of the capital stock is about $6,000,000.

Q. And about 50 per cent. more than the total liabilities of the company, which includes capital stock?

A. About——

Q. Six is about half of thirteen, isn't it?

A. About half.

Q. Well, about 50 per cent. more, yes, the surplus was about half.

A. Yes.

Q. Now, as a matter of fact, Professor, you know, don't you, that the present assets of the present Boston Consolidated Gas Company as they appear in the report to the Boston Gas Commission to which you have referred are not an aggregation of the assets of the six companies that entered into that consolidation as per the books of the constituent companies?

A. I am not posted on the details of that account.

Q. You know, do you not, that an appraisal was made of the assets of all the companies—there were eight instead of six, I think, which formed the Boston Consolidated Gas Company—and that the assets of those companies upon their books are the result of such a distinct appraisal without any reference to the amount of paper that was outstanding of the constituent companies. Don't you know that?

3793 A. I am not familiar with the details of the opening of the books of the Boston Consolidated Gas Company.

Q. But as we are dealing with assets and not as to how much paper may be out representing them, if that assumption is correct that I have made, that is to say that there was an appraisal as shown by the testimony before this tribunal, you would not get very much aid from going back to the paper capitalization of the eight companies, in ascertaining the present value of the structural assets of the Boston Consolidated Gas Company?

A. The present value of the structural assets of the Boston Consolidated Gas Company could be obtained by a fair and careful appraisal.

Q. Yes, and don't you know that the structural assets, as they appear in the report to the Gas Commission, and to which I called your attention in that volume are the result of an appraisal of the assets of the Boston Consolidated Gas Company, or don't you?

Mr. BURR: This volume?

Mr. MATHEWSON: No, not this one, but for 1905.

Q. If you don't know whether that is so or not, Professor, there is no use in wasting time on it.

A. I know that they are the result of a compromise between the corporation counsel and Mr. Snow largely, afterwards acted upon, I believe, by the State Legislature.

Q. And who is Mr. Snow?

A. Representing the Boston Consolidated Gas Company.

Q. Now, you say that at the time of the Boston consolidation, the Massachusetts Gas Commission and the Legislature acted carelessly and without thought in fixing the capitalization. Is that what I understand you to say or did you mean——

3794 A. No, I said that the Gas Commission was not allowed to act.

Q. But, as a matter of fact, after such investigation as they saw fit to make, the Legislature passed this act to which you have referred, did it not, providing for a capitalization of $15,000,000 and more for the Boston Consolidated Gas Company with the proviso that the company by accepting that, should not be held to admit for any purpose that the assets were not in excess of that sum?

A. No, were not equal to that sum.

Q. Look at that book and see.

Mr. BURR: If Mr. Mathewson insists upon it, you might read from the book as to the appraisal.

The WITNESS: Equal.

Q. (Handing book.) See if that is right. "Said Boston Consolidated Gas Company, shall not, by the acceptance of the capitalization herein authorized, be deemed to have admitted for any purpose that the par value of such capitalization is equal to the value of its property or to the value of the property necessary for the proper conduct of its business." That is correct, is it not?

A. Yes, equal.

Q. That is substantially what I asked you. I put it the other way around, that is all.

A. The two things are not equal, they may be either greater or less.

Q. Well, I am willing to leave that construction with the Court as to what the Company intended to provide or protect itself. Now you have made an estimate in Boston or for Boston in which you said, that two dollars per annual thousand feet capacity was enough for Boston?

A. Actual structural value.

Q. You say in that estimate you have eliminated mains.

3795 What mileage of mains did you eliminate?

A. Duplication of mains.

Q. Don't you know in order to produce competition in the City of

Boston that the Brookline Company before consolidation was authorized to lay mains through the City of Boston paralleling to a considerable extent the mains of the Boston Gas Light Company?

A. I knew that the Brookline Company did parallel a great many mains in Boston, but that was only in a general way. I did not go into the details of it.

Q. Do you think that after a company has paralleled the mains of another company for the purpose of inducing competition, that those mains should be eliminated from its capital account as you have done if you have eliminated parallel mains?

A. In making the statement that I did make that for actual structural cost between $7,000,000 and $8,000,000 would suffice for the real needs of Boston, I made a statement or an estimate of about what would be required to meet the actual needs of Boston without any surplus as matters go in a rude way to-day and to avoid any misunderstanding as to taking what was under the ground for a basis of my figures, I added the phrase, eliminating duplication of mains.

The MASTER: I do not understand any better than I did before what your position is on the question Mr. Mathewson asked you.

The WITNESS: Will you kindly read the question.

(Question read by stenographer.)

The WITNESS: If they are not required they should be written off as to value.

Q. But they were required while the Brookline Company was delivering gas, were they not?

3796 A. I presume they were required by the Brookline Company.

Q. And don't you know that the mains of the Boston Gas Light Company were not sufficient to take care of the output at the time of consolidation even in the streets where it was paralleled by the Brookline mains?

A. Nobody could know the details of any of these large cities unless they were engaged in actual operation or had made a special and careful quantative study of the situation.

Q. Have you made such a special and careful quantative study of the situation in Boston?

A. Referring to what particularly?

Q. Your estimate of $2 per thousand feet of sales as the basis of capitalization?

A. I have spent a good deal of time in Boston looking over the ground, not in connection with this matter at all, but in past years in connection with electrical matters which gave me a good general idea of what the possibilities in the way of gas would be in Boston. My statements, as you know, claim to be nothing more than average and a generalization.

Q. Well, did you not find out whether the Boston Gas Light Company's mains were sufficient to supply consumers in the street through which they passed without recourse to the Brookline mains, did you?

A. I did not. And in my estimate I paid no attention to it.

Q. In your estimate of $2 per thousand feet for actual structural

cost in Boston what costs per foot did you put upon the mains which you supposed would be necessary and what was the schedule of mains as to mileage of each dimension?

A. In a general way the large table which I have already handed to the Master of the cost of laying gas mains served the purpose.

3797 Q. Well, but the large schedule that you have handed to the Master as to the estimate of laying mains in New York was an estimate of the cost of laying mains originally before any of the present pavement existed in Boston or New York, wasn't it?

A. It covered every known form of pavement with the exception of the recent wooden pavement which I omitted.

Mr. BURR: When you say "schedule" you refer to the chart?

The WITNESS: Chart, yes.

Q. I would like to know in making this estimate for Boston, how many miles of 36-inch main you computed and how many miles of 12-inch main you computed, and at what cost, in other words, the figure for each main and each class of main?

A. It would be a very difficult matter to do anything more to average up as I did.

Q. You did not go into that subject in making up your two dollars per thousand feet as the capitalization for Boston, did you?

A. The probable cost for mains, do you mean that part of it?

Q. I mean the total mileage required and mileage of each size of main required, and the cost per foot of each class of main?

A. I looked up the statement made, I think it was by Mr. C. J. R. Humphreys, if not, it was by someone else, as to the actual existing mains in Boston and printed in that testimony——

Q. I would like to have you state how much the mains in the City of Boston under your estimate of two dollars to cover everything——

A. Will you allow me to finish?

Q. I thought you had.

A. And getting at those and getting a fair general idea, I made such an average check estimate as seemed to me would serve the purpose of trying out my two-dollar actual structural cost per thousand cubic feet and that was all there was to it.

3798 Q. Can you tell how many miles of mains are required in the City of Boston?

A. I cannot, without going over it again and taking what there is there.

Q. Have you the details here?

A. Why, certainly not.

Q. Did you consider the location of the various works in reference to the distributing system, the distance for the transportation of gas in detail in Boston?

A. Why, certainly not. There were half a dozen places around Boston that would appear fairly decent and some of them are mentioned by the Commission here as being ideal. If I remember rightly, they mentioned the North End station or something like that.

Q. And you know the North End station is the one station that is

going to be abandoned because it is found in practice that that is not so available as any other, don't you, or don't you know that?

A. Certainly, I don't know it.

Q. Well, it is the fact.

A. I could never tell what they would do next in Boston, by any possibility.

Q. I don't think you would want to let contracts without a more careful estimate, Professor. Now, you referred to the $20,000,000 debentures of the Consolidated Gas Company which have been sold to stockholders at par in cash. You understand, don't you, that under the laws of the State of New York the company might have issued its stock to stockholders and got one hundred dollars per share, that is, got par for it, and have been entirely within its rights?

A. I presume it can do it.

Q. You know there is no law here as there is in Massachusetts compelling even the selling of capital stock at a premium, don't you, or has not been before the recent Act?

A. I am not an authority on the law. I will consult some good lawyer if I wish to be advised.

3799 Q. But you are criticising the acts of the company as though you did know it. Now, what we are dealing with here, you know, is the value of the assets of the Consolidated Gas Company. Does it make any difference in the value of the plants of the company as they exist whether the money was received from debentures or from stock or whether it was received from stock sold at a premium or stock sold at par?

A. It would make a great deal of difference as to how much premium you got out of the sales of stock.

Q. It would make a difference in the amount of paper you had outstanding or representing it in the shape of either stock or debentures, wouldn't it?

A. Yes.

Q. It would not make a particle of difference, would it, in the value of the property after it was constructed whether the paper was issued at par or above par, would it?

A. It would furnish more money and build bigger works.

Q. Won't you answer my question. It would make no difference in the value of the plant of the company after it was constructed and in operation whether the stock was sold at par or above par?

A. You mean in the cost?

Q. Yes, the value and cost of the plant of the company?

A. If a plant cost a million dollars it would make no difference in its cost how you got the money.

Q. Precisely. It would not make any difference in its value as a plant how you got the money, would it?

A. Well, that is rather deep. I presume not.

Q. Now, you have referred to real estate of the company as not capitalized at what you consider the six original companies paid for it. I refer to land when I speak of real estate. And you have said increase in the value of land should not be considered. Do you

mean to say that if the company has land worth $15,000,000
3800 which it can sell in the market for that price or which it could lease on a basis of that value that it can receive a return on only $5,000,000 merely because it is put to the use of the public of the City of New York instead of to the use of some other individual?

A. Yes.

Q. In other words, they are cut out of a fair return on the value of their property as it exists to-day merely because they are serving the public. That is the proposition, is it?

A. No, I will explain if you care.

Mr. BURR: Suppose you explain.

The WITNESS: When property is bought for the purpose of manufacturing upon it gas or electricity, for instance, it is fairly assumable that the profit is made year by year on the amount of the investment. If this property should be so very fortunate as to increase greatly in value, there certainly could be no objection to its being sold at this increased value and a second profit being obtained, the profit due to its sale. But if the property is assessed at a higher value than its cost, it is anticipating a sale and assessing the consumer for a problematical profit, when that has not yet been realized, in addition to heaping up on him what will probably have to stand, the increased taxes, due to the increased assessment of the property.

Q. I am not talking about the assessment. I am talking about the value. I am assuming it is proven before this tribunal or any other that the value of the land of the company which it has to-day is $15,000,000, that being the price at which it could sell it or leave it or use it in any other business. I understand your proposition to be that because the public uses it in a certain sense we can
3801 get a return on only, say, five million dollars as representing land?

A. On the cost.

Q. If that be the cost?

A. Yes, if that be the cost.

The MASTER: I do not think he used the word "assessment" in the sense of for purposes of taxation.

The WITNESS: No.

Mr. MATHEWSON: He spoke of taxation later, which led me to suppose that he did. I did not think so at first.

Q. If the company sold the land and realized a profit in that way, it would be necessary, of course, for it to establish a gas plant somewhere else, would it not, if it continued in business?

A. It might be forced out of business by the competition of electricity.

Q. But do you think it would be a matter of economy for the consumer if the company sold its land and thereby virtually lost its entire investment in plants, and had to establish an entirely new plant on other land that it purchased at even a considerably smaller valuation?

A. I would be glad to take up any practical instance of that sort

that you can suggest and give it careful consideration. But this is purely an academic discussion of a baseless theory.

Q. You think so, but you have opened the theory itself and I am going to see where we get to. You say the company can realize a profit on the land when it sells it.

Mr. BURR: You formulated the theory yourself and he stated on the redirect-examination that he disagreed with you and gave his reasons.

3802 Q. I am now asking the Professor whether it would be a matter of economy even to the consumer if the company were compelled to sell its land and transfer its plant or rather establish its plant at another point in order to get the value of its land to itself as it exists?

(Previous question repeated.)

A. That might be done with beneficial results all around but generalizing is not possible and in order to offer an opinion the specific conditions must be stated.

Q. But the plant in the present case you computed to be, even on Yalden's figures plus subsequent additions, something more than $12,000,000, and practically all of that plant would be worthless, would it not, if it were necessary to abandon the present manufacturing stations?

A. I can answer that question after the appraisal made by the State's experts——

Q. I am assuming the figures that you yourself made up, and whatever the value is found to be it would virtually mean a wiping out of the entire investment if we had to go to another manufacturing point and abandon this, would it not? In other words, they would not bring anything practically would they, in addition to the bare value of the land.

A. I am not so sure. I have not had a chance to look over your place yet. I have done a good deal of thinking about that thing and it might be an exceedingly profitable move.

Q. Well, Professor Bemis and everybody else seem to agree that if you abandon a manufacturing plant that you can sell it for the bare value of the land with practically nothing for the plant. In other words that the plant is valueless except for the purposes of operation as it exists. Is not that true?

3803 Mr. BURR: Professor Bemis drew the distinction whether it was a going concern or was going to close up its business.

Q. Do you agree with that proposition?

A. Will you read that question.

(Question repeated.)

A. Not as a generalization.

Q. Well do you as a particularization?

A. There may be some instances in which that is true, but I do not think with the conditions as they are in the Island of Manhattan, that we can afford to say anything of that sort.

Q. You don't think you can move the manufacturing plant at 14th Street from 14th Street to any other place. I mean the physical property, the buildings, the machinery and other things there?

A. If you will pardon me, I will not answer that. I have given it a good deal of thought.

Q. But you are not prepared to answer that?

A. I am not prepared to answer that until I have given it more thorough thought.

Q. Now you have referred again to Philadelphia. If the city of Philadelphia terminates the lease there before the expiration of the thirty years, the city must take over, must it not, the additions which have been made by the U. G. I. Company at the cost to the U. G. I. Company and 6 per cent. interest?

A. That is at the end of ten years; it is possible, on giving notice, for the city to recover the works.

Q. To terminate the lease and then they have got to take over these additions made by the U. G. I. Company with 6 per cent. interest.

A. Paying for additions and improvements. If, however, the city omits to give them notice, then the lease runs for thirty years and the works are returned to the city of Philadelphia at the end
3804 of thirty years without one dollar of payment of any sort or kind.

Q. You understand that the works belong to the city of Philadelphia anyway, do you not, and what I am speaking of are merely any additions that may be made thereto by the U. G. I.?

A. They are pledged to make $15,000,000 additions, and to pay a number of large salaries.

Q. There is a case where, at the end of thirty years the fixed period, the U. G. I. may be out a certain amount of their investment. Have you made any computation as to what would be required in a sinking fund to cancel that expenditure at the end of thirty years?

A. No.

Q. You don't know what that would represent in cents per thousand in the cost of gas?

A. I am not a believer in computations of sinking funds.

Q. You don't agree with Professor Bemis then on that theory.

Mr. BURR: Where does Professor Bemis refer to that?

Mr. MATHEWSON: He says he does not agree with it.

The WITNESS: I said I was not a believer in computations of sinking funds.

Q. You do not mean you are not a believer in sinking funds but merely not in the computation, is that right?

A. Yes. I believe in their existence.

Q. When you refer to the 78.1 cents in Philadelphia, you obtained that, did you not, by dividing the receipts from private consumers by all the gas manufactured by the company, including that to the City of Philadelphia?

A. Yes.

Q. You refer to the standard of candle power in Great Britain and have mentioned some companies as showing——

A. One company.

3805 Q. One company, as showing that it runs with a furnished candle power of one-half candle power above the required power?

A. Yes.

Q. That shows the least difference between the prescribed and the supplied candle power of any one of the three suburban companies, doesn't it?

A. Yes.

Q. And do you observe that taking the Brentford Company, the supply is 15.6 candles and the prescribed is only 14 candles; do you observe that?

A. Yes.

Q. And that the Bromley Company has a supply of 16.75 candles as against 14 prescribed; did you observe that?

A. Yes. Mr. Mathewson, I have observed the whole column all the way down, every one of them.

Q. I am glad to know it because you didn't mention them. I didn't know as you had observed these others. Now, don't you know that the gas which is supplied in London is an unenriched coal gas and does not derive its candle power from the use of oil, except possibly one or two companies which use a very slight amount of oil?

A. I know it is largely coal gas but not unenriched coal gas.

Q. Do the Commercial or South Metropolitan Company, two of the three Metropolitan companies, enrich their gas?

A. The Gaslight Coke & Coal Company enriches its gas by the use of oil and spirit; the Commercial——

The MASTER: Doctor, that was not the question.

Mr. MATHEWSON: I asked about the Commercial or South Metropolitan.

The WITNESS: The Commercial enriches its gas by the use of oil.

Q. To what extent and where do you find it?

3806 A. On the 16th page, 1905, appendix A, "details of coal carbonized and oil and spirit used."

Q. Yes. Now, what enricher do they use. Oil?

A. Oil.

Q. Does the South Metropolitan use any oil?

A. Apparently none.

Q. Then that apparently does not use any oil for enrichment, does it, as far as you observe here?

A. My statement is based on the Gaslight and Coke Company above.

Q. But my questions are based on the Commercial and South Metropolitan?

A. The South Metropolitan does not use any enricher nor have I referred to it in my testimony.

Q. Don't you know, Professor, that it is very much easier to maintain a furnished candle power close to the prescribed candle power where the prescribed candle power is 14 than it is where the prescribed candle power is 22?

A. It is perhaps a little more difficult. It is all a matter, very much like a man shooting at a mark, of skill; and it can be done by

properly skilled men. The fact that a great many men cannot hit a mark does not prove that the mark cannot be hit by a properly skilled man. I refer now to the illuminating power as the mark.

Q. Now, what is the answer to the question?

The MASTER: That seems to be responsive.

Q. It is perhaps a little more difficult. That is your answer, is it?

A. Not all of it.

Q. It is more difficult, is it?

A. It is perhaps a little more difficult but it can be done.

Q. Isn't it a great deal more difficult?

A. No.

Q. Don't you know that oil gas or gas which is enriched by oil to a high candle power drops its illuminating power much more
3807 readily in passing through mains than an unenriched or slightly enriched coal gas of 14 or 15 candles?

A. I know that there is a difference.

Q. Don't you know that?

A. I know that there is a difference of the nature of a percentage difference.

Q. Do you know what the penalty is in London for failure to meet candle power requirements?

A. Practically none, I understand, worthy of consideration.

Q. Is not the candle power which you have given here an average candle power as supplied?

A. Yes.

Q. Do you know how often in London the tests showed that these fell below the 14 or 16 candle power which was required?

A. You mean the average?

Q. No.

A. The individual instances?

Q. Yes.

A. That would be impossible without careful investigation of the original tests.

Q. And if you had a thousand dollars penalty for each offense where a company fell below 22 candle power, it would be necessary and prudent, wouldn't it, to keep the candle power higher to insure a better margin than as though you were subjected to practically no penalty if you fell below the 22 candle power?

A. It would require greater vigilance. I don't know that it would require a greater margin.

Q. And do you not know that the London testing stations are so arranged as to receive the gas after it has traversed a long distance and when ordinarily all the dropping which is to be expected in candle power between the works and testing stations has occurred?

A. No, I was not posted on that.

Q. Is not condensation a factor in dropping of candle power and isn't that due to the low temperatures which prevail in New York below the temperatures which prevail as a rule in London in winter?

A. There are so many factors entering into that question of
3808 illuminating power, particularly some that render the condensation that is spoken of so much not the controlling factor.

Q. Now, will you refer to the City's Exhibit 62 in reference *in* the

City of New York which you say was a tabulation from the company's books. By whom was this prepared for you?

A. By Mr. James Hall.

Q. Of Marwick, Mitchell & Company?

A. Of Marwick, Mitchell & Company.

Q. They are the accountants who are now looking over the books of the Consolidated Gas Company?

A. Yes. It is a copy.

Q. You state here that the average candle-power, coal and water gas stations, for the year, appears to be 25.35 candles. Was that the average of the candle-power at the city testing stations or was that the candle-power at the works of the company before the gas had been sent into the mains at all?

A. The candle-power just outside of the works.

Q. Before the gas was sent into the mains for distribution?

A. I understand that it was not in the works but immediately adjacent to the works. I am not especially familiar with it.

Q. Do you know whether this candle-power represents only results at the works or at the city testing station which must be at least a mile from the works?

A. It is not the city testing station.

Q. There will be a substantial drop between the works and the city testing station a mile from the works, will there not?

A. That is a theory that would have to be tested.

Q. Well, don't you know it to be a fact that there will be and always is a drop between the works and testing station if the station is located a mile or more from the works of the company?

A. You said a substantial drop.

3809 Q. Yes, I will put it in that way?

A. You said that.

Q. Yes.

A. I except to that. There will be a drop. How much I do not know.

Q. You know the maximum candle-power for various stations, all these candle-powers, except those appearing in the column "City test" are candle-powers at the works of the company, are they not?

Mr. BURR: They are not city testing stations.

A. Only one city test in it.

Q. And the others are at the works?

A. The others are at the works, and the city tests are not complete.

Q. You haven't any data here showing how low the tests were at the station or how low they were at the works?

A. Those are averages of which the details are all in the possession of the Consolidated Gas Company.

Q. And you understand that the penalty under which the company labors if its candle-power falls below the requirement is imposed in accordance with the results of the city test a mile from the works but has no relation to the candle-power of our gas at the works, do you not?

A. According to City's Exhibit 62, the candle-power city test shown for the 99th Street station is given on that average as being

25.24 candles, and the candle-power station test which is immediately in the vicinity of the station is 25.52, showing a drop of .28, about one-quarter of a candle occurring in the mile travel from the 99th Street station.

3810 By Mr. BURR:

Q. To the city testing station?

A. To the city testing station.

Mr. BURR: But he said it is not based on the test at the works.

The WITNESS: Excuse me. He said it has no relation to the city test.

Q. No, I said the imposition of the penalty is based upon results found at the city testing station and has no relation to the candle-power which the company maintains at its works?

A. And I replied there was no relation shown by a drop of one-quarter candle in round figures at the 99th Street station in traveling the mile from the station to the city testing station.

Q. Don't you know that the gas of this company manufactured at the different stations is mingled in the mains and that the candle-power of the mingled mixture is that which reaches the consumer?

A. I have no other information than is furnished by your own figures.

Q. You say you have read the testimony. Didn't you read that in the testimony?

A. Your statement is specific and clear there as to its being 99th Street station.

Q. Is that the best answer you can give to the question?

A. It is.

Q. You have referred to the Massachusetts cities in your re-direct, including, among others, Worcester, and have figured at one dollar and fifty-four cents per thousand as some value. Now, as a matter of fact, won't you take your 1905 report of the Massachusetts Gas Commission and see whether I read the values and assets set forth therein correctly for the Worcester Company?

A. Referring to the report for 1905?

3811 Q. Yes. Real estate, $536,477.

A. And thirty-four cents.

Q. Machinery $626,399.

A. And fifty-one cents.

Q. Street Mains, $114,278.

A. And forty-four cents.

Q. Meters, $19,415?

A. And seventy-five cents.

Q. That makes, according to my total, $1,296,569, omitting cents, is that right?

A. $1,296,571.04.

Q. Well, you get two dollars more than I did. Now, if you will divide that by the sales as they appear in that book, which I think are 410,641,700 feet——

A. The daily capacity, 4,200,000?

Q. No, I am not on that at all. Won't you confine yourself to

my question? I asked you if you would not use as a divisor the annual sales of the company, to wit, 410,641,700 feet and let me know how many dollars per thousand of sales those assets represent.

A. It appears to be $3.15.

Q. Well, $3.15 plus; yes. Now, will you tell me whether the assets of the Worcester Company which equal $3.15 per thousand of sales include services or cash working capital other working capital?

A. I presume services are in the street mains.

Q. Well, if the services are not included in the street mains no services are included at all, are they, as far as you can judge from the report to the Gas Commission?

A. Of course services are there serving gas.

Q. But they are not in that report, are they, by name at any rate?

A. They are not named in the report.

Q. Do you know whether there is anything in the $1,296,571 representing working capital in the shape of cash or otherwise?

A. In taking that quantity out I purposely excluded everything but the actual structural assets.

Q. Then the answer is no, isn't it?

A. No, I excluded all except the actual structural assets.

3812 Q. In your reference to these other Massachusetts Companies, computing the dollars per thousand for capitalization, you have also excluded cash and other working capital and working assets aside from bare land, machinery, mains and meters, have you not?

A. In the Cambridge Gas Company in addition to what you have mentioned I have also added works in process of construction.

Q. Yes, but that is works, plant.

A. In the Fall River Gas Company in addition to what you have mentioned I have added office furniture. In the Lowell Gas Works I have given only that which you have mentioned, and in the Worcester Gas Works I have given only that which you have mentioned.

Q. Do you know whether services are included in any one of those companies?

A. Intended to be in every case.

Q. Do you know whether they are included as per the Massachusetts report from which you took the figures?

A. Not specifically mentioned in any one of these companies but included as necessary; the works could not operate without them.

Q. And in each case you have excluded cash working capital and other working capital, have you not?

A. In the case of Worcester that seems to be the case. In the case of the Lowell Gas Light Company I appear to have also excluded investments. That appears to be correct in the case of the Fall River Gas Works Company too, and in the case of the Cambridge Gas Company I have excluded notes receivable.

Q. All right, I merely asked whether in each of those cases you did not exclude working capital and you did; that seems to be the answer. Now let us take this Worcester capitalization still further. I show you the Massachusetts Gas Report for 1900. Will you look at the

Worcester Company and tell me how many miles of mains
3813 there were in Worcester according to that report (page 127)?

A. Page 127, January, 1901, you have handed me.

Q. Yes, it is another page. Don't you find 93½ miles in 1900?

A. 93 and a little over one-half.

Q. And what figure is it carried on the books according to that report. Is it not $134,065.92?

A. $134,065.92.

Q. Will you look at your 1905 report and say whether the mileage in 1905 has not increased from 93½ miles to 126¼ miles (page 127)?

A. Just about 126¼.

Q. What is the valuation at which that 126¼ miles are carried on the books of the company in 1905?

A. $114,278.44.

Q. In other words, although the mains of the company have increased in mileage from 93½ to 126¼ miles, it appears the mains have been marked down so they are carried in 1905 at actually $20,000 less than they were carried at in 1900; is that not correct?

A. It appears to be about right. It is exceedingly careful bookkeeping apparently.

Q. Now, if you take the 4 and 6-inch pipe alone as shown for 1905 and average that at a cost of only fifty cents, it would equal $163,000, wouldn't it; almost fifty per cent. more than the entire mileage of mains is carried at on the books of the Worcester Company?

A. I would have to figure these out carefully. If you wish me to do so for you.

Q. Well, 4 and 6-inch mains are right there, and supposing you take the mileage and apply fifty cents to that mileage and see if that does not give you $163,000 for those mains alone?

A. If you say it is so, I will accept the figures.

Q. And if you find it is not so you will correct me?

A. Yes.

Q. Is not fifty cents an exceedingly low price for 4 and 6-inch——

A. You mean laid?

Q. Yes, according to your computations. Assume ordi-
3814 nary pavement, not the new expensive pavement.

A. Referring to 6-inch pipe of which you have spoken for streets with macadam top, it would appear that pipe laid, filled back and pavement restored, would be very closely in the neighborhood of 85 cents.

Q. How much would 4-inch pipe be?

A. 4-inch pipe under the same conditions would appear to be sixty-two or sixty-three cents.

Q. So that if you take 4 and 6-inch pipe alone in Worcester and find that reckoned at fifty cents that equalled $163,000 or nearly fifty per cent. more than the entire mileage of mains in Worcester is carried at on the books of the Worcester Company, it would indicate, would it not, a very large charging down of the value of mains in some way?

A. I would not be willing to guess from figures of physical conditions under which pipes were laid. You can if you give the physical conditions make a fairly good guess of cost of it but you cannot reverse it.

Q. Assuming any physical conditions to exist in the City of Worcester with which you are familiar and which is one of the largest cities in Massachusetts would not your answer to my question be in the affirmative, to your best understanding?

A. No. It would be absurd for me to guess at the physical conditions from the price of pipe.

Q. You would not expect to find an increase of 23 miles in pipe in the City of Worcester with a decrease of $20,000 in value of the pipe, would you?

A. You mean changed to that extent?

Q. Yes.

A. Why, I would have to investigate that carefully.

Q. You would not expect it, would you?

A. No, I would have to investigate that carefully and look into it.

Q. Now, let us take the subject of meters, which is easier
3815 yet, in Worcester. Will you look at the 1900 report which I show you and see if there were not then 9,074 meters?

A. 9,074, which includes one 70-light meter.

Q. At a valuation of $15,081.18?

A. Meters, $15,081.18.

Q. Now, according to my computation that means $1.65 or about that per meter; are you willing to assume that for the purpose of your answer, or do you want to compute it?

A. $1.65, it looks right.

Q. In 1905 were there not in Worcester according to the report 13,708 meters?

A. Yes.

Q. Valued at $19,415.75?

A. $19,415.75.

Q. And that according to my computation makes only $1.42 per meter as against $1.65 per meter in 1900. Is that a result which you would expect if the assets showed in each case the exact cost of the meters?

A. Probably a good deal of depreciation which has been promptly written off in that case.

Q. Don't you know that either $1.41 or $1.65 is a ridiculous price for the value of meters taken on the average and that meters will probably average $8.00 or $9.00 if you take actual structural value?

A. If I remember all right 3, 5 and 10-light meters will hardly average indeed more than somewhere in the neighborhood of $5.00 or $6.00.

Q. Well, take this value, they would be very much more than $1.41 or $1.65, wouldn't they in a city the size of Worcester, the ordinary standard meters?

A. They probably have been writing off depreciation in this case on the basis of seven years' life, which is very frequently done. Of course, I don't know this, it is a mere surmise on my part.

Q. But you know that $1.41 or $1.65 would look as an extremely low rate at which to carry meters?

A. Regarding the question of the light, I have not the figures. It probably has resulted from their writing off the meter values,

3816 assuming the life of seven years to a meter.

Q. After they had written off their meters for awhile they would get down to an average life where there would be no further writing off but the meters would maintain an average, and don't you see that 40 per cent. of all these meters are only five years old because there were only 9,000 in 1900 and 13,700 and more in 1905?

A. It seems to me a very conservative estimate indeed, of the value of the meters.

Q. Let us be perfectly fair and frank about this. Does not that valuation impress you as a valuation substantially below the actual value of the meters as they would exist naturally in a city like Worcester, assuming that 40 per cent. of them have been added new since 1900?

A. If we could get the average life of those meters——

Q. I don't care to have you figure on the average life. If you cannot answer my question I am not going to press it.

The MASTER: He already answered it substantially, as I understand it. He said it would strike him as a very conservative figure for them.

Mr. MATHEWSON: I think he should have said it was a very ridiculous figure for them.

Mr. BURR: Are you testifying again?

Mr. MATHEWSON: No. I am stating what I think he should have testified to.

Q. Now, let us take your little book. You at pages 218 and 219 prepared a table covering the gas companies in Massachusetts, did you not?

A. Not in its entirety.

Q. Well, it appears in that book and is adopted by you, isn't it?

Mr. BURR: As what?

3817 A. Gas companies which did not meter their gas or which had a large contract of sales, lump sum, were in whole or in part omitted from this.

Q. Well, very good. Let us take it——

A. And also companies in many cases——

Q. Well, we will take it as it stands; that is included under the column headed, "Investment per thousand feet?"

A. I would have to look that up to see whether that is the capitalization or assets per annual one thousand feet of sales.

Q. Well, at any rate the figures are taken from the Massachusetts report of 1901, are they not?

A. Yes.

Q. Now, here I find opposite these cities in Massachusetts, the heading, "Investment per Annual One thousand feet," the following:

Fall River	$3.97
Springfield	4.36
Charlestown	4.31
Cambridge	3.85
Lawrence	5.50
Haverhill	3.85
Lowell	2.77
Dorchester	4.45
Lynn	3.06
Worcester	2.89

Is that correct? Have I read it correctly?

A. That is per annual thousand sales?

Q. Now in another column, referring to your testimony heretofore that you allowed 10 per cent. dividends and 5 per cent. for depreciation, I find this, this being the heading of the column: "Fifteen per cent. depreciation and profit per one thousand" and under that column I find the lowest figure which you allowed
3818 to be 33 cents which is in the case of Fitchburg or Newburyport, if I am correct; and then next in order from the lower up I find:

39 cents for North Adams
41 " " Lowell
42 " " Worcester
46 " " Lynn
55 " " Woburn
58 " " Haverhill
58 " " Cambridge
59 " " Fall River

and so on, up to higher figures. Have I read the figures correctly?

A. I presume you have. I am willing to accept them.

Mr. MATHEWSON: Have I, Mr. Burr?

Mr. BURR: I think so.

Q. And these cents per thousand relating to these separate companies which you have included under the heading "15 cents depreciation and profit one thousand" are carried into the total of the next column which is headed "Total charge—proper selling price per one thousand feet." Is that correct?

A. That is correctly related.

Q. And the very lowest selling price or "Proper selling price," to use your language, per one thousand feet, is that marked for the City of Worcester, $1.07, is that right?

A. I accept your reading, Mr. Mathewson. Always.

Q. Referring for a moment to your remarks on real estate you state that in a great city where there was a high cost that was compensated by the subsequent increase in value?

A. Increase in output, in sales.

Q. But how does that compensate you as to the value of
3819 your land if you cannot use your land until you move your plant off?

A. I was speaking of the original cost, purchase price.

Q. If you do move your plant off from a piece of real estate in

order to sell it at the present value and get that advantage who bears the expense of the replacement of the plant on some other plot?

A. I presume you would not move unless it was a pretty good move.

Q. Well, but we would have to if we received any advantage from increase in value of our real estate so we were able to realize on it.

A. It is altogether a voluntary matter with you, to be determined according to the best profit you can make by either staying or going.

Q. And in the best profit we can make by staying, that would mean simply a return on original cost of the land although it might now be worth three times the original cost?

A. Yes.

Mr. BURR: You do not claim you are speculating in real estate, do you, in addition to manufacturing gas?

Mr. MATHEWSON: I have not made any such claim, but we accept the gifts the Gods provide, as they provide them, without protest.

Mr. BURR: At the expense of the consumer?

Mr. MATHEWSON: No, because nothing comes out of the consumer in increasing the value of our land. It is due to Divine Providence and the growth of the City of New York.

Q. You have spoken about the output in Massachusetts being about equal to the output in New York?

A. No, somewhat less, considerably so, perhaps.

Q. Do you mean to say that the value of the land in Massachusetts to produce that amount of gas ought to be as great as
3820 the value of the corresponding land on the Island of Manhattan required to produce the same amount of gas, or that there is any comparison at all between values of land in Massachusetts and on Manhattan Island?

A. I stated that the value of the land used on the Island of Manhattan for gas purposes must be greater than the value of all the land used by all the gas works in the whole State of Massachusetts, in order that the cost per thousand cubic feet of sales should be greater in New York than it is in the whole State of Massachusetts.

Q. You have not any doubt that the value of the land is greater in the Island of Manhattan than it is in Massachusetts, have you, for the production of a similar amount of gas?

A. I referred, not to the question of gas, but to all the land, every foot of land, owned by all the gas works in the whole State of Massachusetts.

Q. That is what I mean——

A. Which produces a less quantity of gas and sells it than does the land now used for gas making on the Island of Manhattan.

Q. You did not mean to suggest, did you, that the value of the land in Massachusetts spread over the State producing that amount of gas was equal to the value of land in the Island of Manhattan producing a similar -mount of gas?

A. The ten billion?

Q. Yes, did you mean to suggest that the value of land in Massachusetts taken all together was as great as the value of land in the Island of Manhattan producing a similar quantity of gas?

A. Used for making gas?

Q. Yes.

A. I offered it as a simile giving a general idea of what I had before stated that, as the gas sales went up it was compensated by an increase in the cost of land generally, and that as they went
3821 down as they do in Massachusetts in many small towns, that that was to say, compensated by a cheapening of the price of land and finding fortuitously that Massachusetts claimed to make 10,400,000,000 feet, as I thought incorrectly, and it coincided with New York, I tried to make it clear by that general statement.

Q. I do not understand how we are compensated by the increase in the value of our land if we cannot sell the land but have to use it for gas manufacturing at exactly the same value which it cost us originally. How is there any compensation if we cannot treat the land as of the present value? You cannot make any more gas per square foot, can you?

A. Well, land costing the $3,000,000, as I look at it, on the Island of Manhattan, and turning out ten and one-half billion cubic feet of gas, and having done that for many years, is doing mighty well.

Q. But where do we get the advantage of any increase in price if we are obliged to compute that land always at the original cost to us in using it in the gas business? I am trying to get you to explain where your theory of compensation comes in if your other theory that we cannot consider the value of the land at its present value is to be accepted?

A. My idea is that you should not get the result of the increase in value.

Q. I understand. If that be so, then where is there any compensation because theoretically the land is increased in value, if practically we are unable to receive any greater return on it than we were when the land was originally bought and was only one-third the present value?

A. The extraordinary increase of value of land in New York City is simply a piece of good luck for which no deserving return has been made, and the community makes the value of the very profitable gas works in New York and ought not to be assessed extra on account of that.

3822 Q. Is that the best answer that you can make?

A. I have made other answers. I am trying——

Q. Is that the best answer you can make as to my inquiry as to where the compensation comes in?

A. It don't come in.

Q. Then there is not any compensation by reason of the increase in the value of the land, is there?

Mr. BURR: You get compensation when you sell it.

The WITNESS: That has already been stated.

Q. By Mr. Burr?

A. I beg pardon, by myself.

Q. Then I ask you if when we do get this compensation which is such a great thing for us by removing our plant to some other place, how the expense of the construction of this new plant is to be met,

is it to be met by increasing the cost of gas, that is charging the replacement to the consumers?

A. Mr. Mathewson——

Q. And if not, where does the compensation come in, because while we have got some increase in the value of our land we have lost completely the value of the plant which we have abandoned, because as scrap, the testimony is unanimous that it is worth nothing or practically nothing. Now, can you elaborate a little more your theory of compensation, because we are anxious to find where it is and we are looking for it?

A. In all these matters, as in all business matters, you have to use your judgment doing the best you can, the decision as to whether you move or do not move is simply a question for you to decide.

Q. Is that the best answer you can make?

A. The situation with regard to the Consolidated Gas Company is an exceedingly fortunate one as compared with a good many other companies I know of, and I don't think that the com-

3823 pany need worry over the question of moving, if, in figuring it out, it would not appear quite as profitable as staying where they are.

Q. Is that the best answer you can make to my question?

A. Indeed it is.

Q. Then I do not see that we have got much light on compensation, but we will go to another point. You have said that in England, according to the English accountants taxes or certain items went into profit and loss or should go into profit and loss and you thought therefore they should not go into the operating cost of gas. Don't you know that by the English law taxes are referred directly to profit and loss and that they also appear in the cost of gas?

A. I know that rates and taxes appear in the cost of gas.

Q. And you also know that they appear in profit and loss, don't you?

(No reply).

Q. Now, you have used the term "profit and loss" as a dumping ground for items which you take out of cost of gas, because you say they ought to go into profit and loss. Now, is it not a matter of fact that profit and loss is an account into which other accounts are charged at the end of the year and that the best practice is to charge nothing into profit and loss directly where it is possible to avoid it without first charging it into some other account, some other operating account, is not that true?

A. Profit and loss, you know, is a final account.

Q. Exactly. It is a final account. Now, is not that the best practice, to carry expenditures to some other account which is closed into profit and loss at the end of the year instead of transferring the items directly to profit and loss?

A. If you will mention any particular account that you are handling——

3824 Q. No, I am speaking generally——

A. I cannot give general instructions in bookkeeping.

Q. Is it not the best practice in bookkeeping to charge general expense into operating accounts in the first instance instead of charging

them over directly to profit and loss where it can be charged into some current account?

A. As I said to you before, profit and loss is regarded as a final account, you know, and it does not follow—you can generalize in the way you are——

Q. Everything has to go into profit and loss account ultimately, doesn't it?

A. Yes.

Q. Whether carried directly to profit and loss account or whether first carried into an operating account. That is true, is it not?

A. Well, you know, of course, there are certain capital expenditures which do not go into that account.

Q. I am talking about expenditures of the business, and not return upon capital and payment of dividends. That is true, is it not?

A. I am speaking now of what might be called active accounts.

Q. Exactly. So it does not at all follow, because you think an item should be charged into profit and loss account ultimately, that it may not also appear in the operating cost of gas, does it?

A. Well, that is altogether a question of common consent amongst those adjudged proper to decide on those questions.

Q. Well, I am asking your view on that subject. You have used the term "profit and loss."

A. I have specifically stated in every case the particular account that I thought *out* to go to profit and loss. I have not attempted to generalize in regard to bookkeeping and cannot answer you in that way, because I cannot——

Q. You have taken various general items and said you did not charge them into operating account, but charged them into profit and loss.

3825 & 3826 A. I did and I have named every item and I know too much about bookkeeping——

Q. Now, I ask you, if the fact that they are to be charged into profit and loss of itself is any reason why they should be excluded from an operating account in determining the cost of gas?

A. I know too much about bookkeeping to make a general reply to that question. Every account will have to be considered specifically and I will answer specifically if you wish.

Q. If you cannot answer the question I asked you generally, I shall accept what you have said, Professor. Is that the best answer you can give?

A. That is the best answer I can give.

Mr. MATHEWSON: I have only two more questions but I shall ask the Master to suspend, as I have to catch the 5.05 p. m. train.

Adjourned to 10.30 a. m. Friday, November 2, 1906.

Last Exhibits:

Complainant's, 256.
State's, W.
City's, 62.

3827 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *November* 2, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Kirby.

3828 WILLIAM D. MARKS resumed.

Continuation of the cross-examination by Mr. MATHEWSON:

Q. Do I understand that in connection with the building of the Laclede Gas Works about 30 years ago you were employed by and represented William Farmer, the Chief Engineer?

Mr. BURR: I object to that as not being proper recross-examination. His qualifications and everything in regard to that were gone into on cross-examination, and there was nothing said on redirect that would justify an examination now by way of recross-examination in regard to his qualifications and past experience.

Mr. MATHEWSON: It is not recross-examination, but I desire to ask him one or two questions, not over three, relating to his position in the Leclede Gas Company.

Mr. BURR: You see, that makes it necessary for me to examine him on the re-redirect.

The MASTER: I will allow it.

Mr. BURR: Exception.

A. I would like to clear that point up beyond any possible misunderstanding. I was paid by the contractors for the building of the works. Mr. William Farmer was also paid by the contractors for the building of the works. William Farmer did not visit St. Louis, except I think on two occasions during the construction of the works. For that reason I was designated by the contractors to take all the work that came, delivered to them by Mr. Farmer, with Mr. Farmer's approval as I understood.

Q. Mr. Farmer was the Chief Engineer, was he?

A. Mr. Farmer was the Chief Engineer.

3829 Q. Well, was not Mr. Scobelski the Chief Resident Engineer in charge?

A. Jake Zabriskie, do you mean?

Q. Well it is spelled both ways in the literature, I find.

A. Jake Zabriskie was the man——

Q. Was he not the Chief Resident Engineer under Mr. Farmer?

A. Certainly not. He did not even suspect the true meaning of engineering, let alone knowing anything about it.

Q. And you were the resident engineer, were you?

A. I was the man designated to carry out Mr. Farmer's work, criticising, examining and inspecting, and in so far as I had any official title, was both accountant for the contractors and resident engineer for the contractors.

Mr. MATHEWSON: I have no more questions.

By Mr. BURR:

Q. Now, Doctor, yesterday you were referred to a tabulation of Massachusetts Gas Companies from the report of 1901 of the Massachusetts Gas and Electricity Commissioners as they appeared on pages 218 and 219 of your book, "The Finances of Gas and Electric Light and Power Enterprises." Will you state what was the original object of these tables as they appeared in your book?

A. The object of Chapter 6 of *by* book, prices of gas in Massachusetts——

Q. You are now referring to the schedules to which your especial attention was called yesterday?

A. Yes, was a review of the then existing conditions of the large number of small companies, and the deduction of a general law, connecting sales per capita with the price of gas, per thousand cubic feet in Massachusetts. Many of these companies were quite small, and for that reason amongst others, their fixed expenses invested per annual thousand cubic feet of gas sold, their cost of manu-
3830 facture and distribution per thousand cubic feet of gas sold, and the proper selling price of gas were all large. In that table no attempt was made to prescribe the proper method or cost of construction or prices which should be charged if the works were properly designed and properly operated, or properly arranged as to their capacities. All of the data stated in that table is but a relation of the actual facts as deduced from the report of the Massachusetts Gas and Electricity Commissioners. No attempt was made to criticise, examine or develop the possibilities of these various companies. They were accepted without criticism, and the proper selling price per thousand cubic feet was deduced to show what would have to be charged to produce 15 per cent. to cover depreciation, profit, and all of the contingencies existing as they stood.

An entirely different treatment is required to use what few of them are of sufficient size to be available in comparison with metropolitan companies. None of the figures given show the possibilities of these companies, they show only their actual condition, and for this reason the figures in the tables on pages 218 and 219 are of no value whatever for the purposes of the investigation of the Consolidated Gas Company of New York.

Q. Will you state in a general way what has been your method of investigation of the Consolidated Gas Company of New York?

A. The gas works operated by the Consolidated Gas Company on the Island of Manhattan are operated under conditions which do not exist anywhere else in the world. First of all, these gas works are driven to their utmost capacity, and therefore the investment per annual thousand feet of sales is as small as can possibly be hoped for in gas works. In but one item are these works as a matter of
3831 structural cost more costly than any other average gas works per thousand cubic feet of sales, that is the real estate. It happens, owing to the early purchases, and at low prices, and subsequent sales at high prices, of a portion of the land, that the structural cost of the land appears to be in the neighborhood of three million dollars.

Mr. MATHEWSON: That is not redirect examination. You have already gone into that three million dollars in direct examination at length.

Q. That the structural cost of the land remaining appears to be about three million dollars?

A. Yes. The structural cost of all the other details, brick buildings, manufacturing apparatus, gas holders, mains, services and meters, can only exceed, because of locality, by a small percentage, the structural cost of these details in any metropolis. On the other hand, because of their very large size, the cost of these works is probably very much lower in cost per thousand cubic feet of capacity than the average of the small and medium sized gas works. The conditions all point to a minimum of cost of construction and a maximum of profit per thousand cubic feet of sales. The responsibility of dealing with such large affairs as are involved in the consideration of the Consolidated Gas Company's price for gas has rendered necessary most exhaustive investigation and immense labor in details.

First, it was necessary to learn the probable result of reducing the price of gas from $1 to 80 cents per thousand cubic feet as shown on the chart of Manhattan already in evidence. It appears probable that if the price of 80 cents for gas goes into effect during the year 1907, that the total sales of gas by the Consolidated Gas Company during that year will amount to about 15,300,000,000 cubic feet, earning in gross about $12,240,000 from gas sales.

3832 The MASTER: Pardon me. Is there very much of this?

The WITNESS: No, very little.

The MASTER: It does not seem to me to be redirect.

The MASTER: It is explaining in a general way the methods he pursued.

The MASTER: It covers the whole ground of his position in the case, and if Mr. Mathewson chooses to cross-examine on it it opens up a vista of another day's examination which would seem to be unnecessary.

The WITNESS: Second, it was necessary to investigate the actual cash cost of gas for material, labor, repairs, general supervision and

operation under the conditions existing in the year 1905. From the statistics presented, the estimated cash cost of gas appears to have been in the neighborhood of 53.5 cents, although this is stated to be doubtful from the data furnished. It cannot be predicated from this investigation that economical and scientific management will not further largely reduce the cost of producing and distributing 22 candle power gas at the meter.

The price of oil, when compared with the prices obtained by other and smaller companies appears to be about one cent too high per gallon——

Mr. MATHEWSON: Has not that already been said and gone over?

The WITNESS: I never before said anything about the oil.

Mr. MATHEWSON: Yes, you compared the rate of oil here and took the cities in this State and compared them with the rate we paid.

3833 Mr. BURR: He never stated what, in his opinion, was the amount that it was in excess of the rate that should be charged.

Mr. MATHEWSON: I do not think he is competent to state that at all. He has never bought and sold oil in this vicinity.

The WITNESS: And the illuminating power of the gas produced, largely in excess, say about four candles, above the average legally required. The investigation of the methods of management, so far as gone into, would appear, in the matter of material, to admit of heavy losses, due to lack of close supervision and system in the handling of material used.

The existing facts as to the cost of gas will be learned, so far as the year 1905 is concerned, from the investigation of vouchers, pay rolls and account books, now in progress.

Third. In order to determine the true structural cost of the gas works of the Consolidated Gas Company, it was necessary to make careful inventories of the existing plant, and to obtain for this purpose the services of reliable and impartial gas engineers and constructors. This inventory has been made for the Consolidated Gas Company by one of its employees, an engineer, but appears to me to be too high on account of an unwise neglect of depreciation. Another inventory is being made by engineers employed by the State.

In order to corroborate, or rather to anticipate the results of this inventory, I have taken the statistics of four Massachusetts gas companies, Cambridge, Fall River, Lowell and Worcester, which appear to have had a normal growth, and not to have had their accounts sophisticated by tricky financial methods, and from the capacity of these works and their cost as reported to the Mas-

3834 sachusetts Gas & Electricity Commission I have deduced an average cost per thousand cubic feet of capacity of about 1.75 cents, and, using this average with additions, I have obtained a total cost of the plant of the Consolidated Gas Company, together with a necessary working capital, which it does not appear can by any possibility exceed the twenty-nine million or thirty million dollars fixed as the cost of all the plant, from real estate to meters, with working

capital by the New York Gas & Electric Commission, at the same time that the price of gas was fixed at 80 cents per thousand cubic feet to private consumers.

Mr. MATHEWSON: I move to strike out the entire answer on the ground it is not redirect-examination, but is simply a summation and statement of conclusions which should not now be presented, and which is not properly in the case in that shape.

Mr. BURR: I think it is entirely proper in view of the cross-examination, which was for the purpose of discrediting the conclusions which he thought should be drawn. He is entitled to show the means he adopted in arriving at his conclusions.

The MASTER: He is entitled to tell it in response to question and answer in the ordinary way. There is no warrant that I know of for a witness making a stump speech to justify his testimony.

Mr. BURR: I object to the designation of this statement as a stump speech.

The MASTER: Well, it is perhaps a little extreme——

Mr. BURR: All these experts, Dr. Humphreys and the others, have made their statements from carefully elaborated data, and it has been impossible by question and answer to extract the information
3835 in regard to the various details in those examinations.

The MASTER: I know, sometimes that habit of preparing long written answers prevails among experts in patent cases, but it is a very reprehensible practice.

Mr. MATHEWSON: Is there any justification for the witness going into the question of sophistry and sophistication by tricky financial methods? I say it is utterly improper, and it is not worthy of the witness to employ such language. It is outrageous. It is not testimony, it is simply villification.

Mr. BURR: It is not worthy of any one to employ such methods if they have been used.

Mr. MATHEWSON: No, sir; no one can put a finger on such a method. They have not been used. That is an outrageous statement.

Mr. BURR: I except to the striking out of the testimony.

Q. I call your attention to Field's Analysis, Doctor Marks. Your attention was called by Mr. Mathewson yesterday to the use of the candle power as required and as actually supplied in London. Do you desire to make any explanation in that regard?

A. The candle power furnished being an average of 16½ candles by the London Gas Light & Coke Company, designated as the Gaslight Company, page 16, was made by the mixed method; that is, the use of common coal gas distilled in retorts enriched by the use of oil and spirit in large quantities. It appears for the year 1905, page 16, that the Gaslight Company in that year used 15,935,240 English gallons of oil and 220,973 English gallons of spirit. In this respect the London Gaslight & Coke Company differs largely from the Commercial and the South Metropolitan, for while it uses com-
3836 mon coal, as also does the other companies, it also in addition uses large quantities of oil and of spirit as enrichers. For

this reason it does not present any difficulty in retaining or holding very closely to the candle power described, which is 16.

Q. You heard the testimony of Chief Engineer Bradley, that it would take from fifteen to twenty-five years to complete the projected Astoria works?

A. I recall it.

Q. If the figures given in the Burr-Herring-Freeman report should be accepted as true, there would be no reason in your opinion, or no justification, in your opinion, for completing the Astoria works, would there?

A. Not if the gas from the Astoria works was to be used in the Island of Manhattan.

Mr. BURR: That is all.

By Mr. MATHEWSON:

Q. What did you understand would be completed in from fifteen to twenty-five years at Astoria?

A. The works at Astoria.

Q. What works, what capacity?

A. The gas works.

Q. What capacity, the first unit or second unit?

Mr. BURR: All the works, I understand.

Mr. MATHEWSON: Won't you let him testify? It is not what you understand; I am trying to find out what the witness understands.

The WITNESS: It was to be 240,000,000 daily capacity ultimately, if I remember right.

Q. And that is what you had in mind, twelve units of twenty million capacity each, which would be completed in fifteen to twenty-five years if the entire project was put through, wasn't it?

A. I understood Mr. Bradley to say so.

Q. Well, that did not refer to the completion of the first
3837 unit or the second unit, did it?

A. I understood that that was to be completed much earlier from testimony.

Q. Now, you spoke of the London Gaslight & Coke Company, where the candle power runs 16.48 as against a required candle power of 16. You understand that the 16.48 is an average, don't you?

A. 16.50 for two years.

Q. Well, call it 16.50, 16½ about; you understand that is an average, don't you?

A. Yes.

Q. Do you know how often the tests showed below 16?

A. I do not.

Q. Don't you know that a great deal of the gas of the London Gaslight & Coke Company is made fourteen miles from the city, and is sent into the city from that distance, and that these tests are made in the city testing station, near the point of consumption, after the gas has traversed that mileage of mains, or don't you know that?

A. I do; that there is a very large gas main laid carrying gas a very great distance, in a general way. I cannot recall the figures.

Q. Do you know under what pressure that main works?

A. I do not.

Q. Don't you know that it works under a pressure of 60 inches?

A. That depends upon which end you are considering.

Q. Well, we will consider the starting end.

A. No, I knew it was necessarily at a high pressure at one end.

Q. Do you know whether any oil is used in enriching the coal gas of the London Gaslight & Coke Company at all or, whether that oil is used in the manufacture of water gas wholly?

A. I do not. I know just what they state.

Q. I am not going to examine you one the answer that was stricken out, Professor, because it was stricken out, but I am going to
3838 ask you about this neglect of this depreciation which you say you found in the testimony of Mr. Mayer. Did you find that he deducted depreciation right along for various pieces of apparatus and buildings used in arriving at his figures?

A. My objection——

Q. Just a minute—answer that question.

A. Yes.

Q. Did you not find in some cases he deducted as much as 50 per cent.?

A. I recall that in one case where he said the roof had fallen in and he had deducted 50 per cent.

Q. Did you not read his testimony or hear it where he said that wherever he saw any deterioration he deducted depreciation?

A. I remember he stated that he did deduct depreciation because of what was visible to him.

Q. Don't you remember in some cases he had deducted depreciation where he said the apparatus appeared to be as good as new, but that he deducted it because he found that it had been acquired a considerable time before?

A. That was very rare, if at all.

Q. You don't remember any such instance in his testimony, do you?

A. Very rarely if at all.

Q. Do you remember any such instances in his testimony?

A. I am not sufficiently clear on that point to make any further reply.

Q. Now, in reference to the manufacturing of great amounts of gas by this company, did you read the testimony of Professor Bemis and the other witnesses that after an output of about 700,000,000 feet per annum is reached there is no substantial economy in the production of further amounts per thousand cubic feet?

Mr. BURR: Professor Bemis qualified that statement and explained it.

3839 Mr. MATHEWSON: No, he said he still believed it.

Mr. BURR: You had better refer to his special testimony on that point if you want to ask this witness.

Q. Have you read that testimony?

A. I once before answered that I had a general impression of that sort, but had not seen it. I should have to see it.

Q. Don't you agree with Professor Bemis and the other witnesses in that respect?

A. I do not concur with any engineer or individual who proceeds to generalize in the air on the subject of any plant.

Q. Is it your view that there is a substantial economy in production per thousand feet by reason of increase after a company does have an output of say 700,000,000 feet per annum.

A. I cannot make any better reply than I did to you before.

Q. Very good. Now, I am going to take your table on page 218 and page 219 of your book and refer to the companies you just mentioned as having compared with the Consolidated Gas Company.

Mr. BURR: Is that the same table you referred to yesterday?

Mr. MATHEWSON: Precisely.

Mr. BURR: I object to it because you have already had your opportunity to go fully into that and we have answered you this morning. Now, if you are going into it again, of course, I shall have to have the opportunity of examining him still further.

Mr. MATHEWSON: All right. The witness a few moments ago in his testimony in reply to Mr. Burr said that this table on pages 218 and 219 was intended as an average of smaller companies and that there were few large companies. He then mentioned that
3840 the companies he compared to the Consolidated were the Fall River, Cambridge, Worcester and Lowell. And I now propose to read from these pages the data regarding those four companies and ask if I read correctly.

Mr. BURR: That was all gone into yesterday when examining from this table, and this was a reply to their examination yesterday. Now, if they go still further into these tables I must have the opportunity to reply. I thought they had exhausted these tables and that was the reason I asked the doctor to make an explanation as to what those tables represent.

Mr. MATHEWSON: I am going to select the four which he said he had himself compared.

Mr. BURR: Those are the four you referred to yesterday?

The MASTER: If you examined on these redirect, Mr. Burr, and Mr. Mathewson wants to cross-examine on them, I think he is entitled to. I don't know exactly what the point is, yet.

Mr. MATHEWSON: My question will be very brief.

Q. I will ask you, taking the four cities to which you have referred this morning as having compared to the Consolidated, whether your tables do not show the following:

"Investment Per Annual Thousand Feet of Sales.

Fall River	$3.97
Cambridge	3.85
Lowell	2.77
Worcester	2.89."

and if you do not state for those under "Total Charges, Proper Selling Price per Thousand Feet,

3841

Fall River	$1.30
Cambridge	1.25
Lowell	1.15
Worcester	1.07"

Is that correct?

A. I have not caught all of them. It appears to be, though.

Mr. MATHEWSON: That is all the questions I have to ask.

By Mr. BURR:

Q. Have you pursued your studies as to the estimated population and the estimated consumption of gas in 1907, in the Borough of Manhattan?

A. Not only in the Borough of Manhattan, but also in all the boroughs of the City of New York, in order to avoid any possible incorrect theory of superficial reasoning; I have worked them out very thoroughly.

Q. Is that the chart upon which your results are set forth?

A. Yes, a chart showing the Borough of Manhattan, the Borough of Bronx, the Borough of Brooklyn, the Borough of Queens, the Borough of Richmond, and the composite line of Greater New York, together with a population of Greater New York of about 4,244,413, estimated, in 1907.

By Mr. MATHEWSON:

Q. Is that chart worked out on the basis of your previous testimony?

A. Yes.

Mr. BURR: I offer it in evidence.

The WITNESS: It was worked out in the rough before my testimony was given.

Mr. MATHEWSON: I make the same objection to that that I did to the original testimony; that the Professor is not a competent witness on that subject; it is merely speculation.

3842 The MASTER: There is no new matter in this that is not covered by your prior testimony?

Mr. BURR: It shows the results of the study of the whole of Greater New York and confirms the statement as he presented it with regard to the Borough of Manhattan.

Mr. MATHEWSON: I understand it is merely a graphic representation of his previous testimony and nothing further.

Mr. BURR: That is all. It does not change anything in the previous chart at all, Mr. Mathewson.

Objection overruled. Exception.

Received in evidence and marked City's Exhibit 62.

By Mr. MATHEWSON:

Q. There is one other thing I want to read from this table which I overlooked for a minute. From page 219 of your book, Professor,

I quote in reference to the four cities as follows, and ask if I am incorrect:

"Fifteen Per Cent. Depreciation and Profit Per One Thousand Feet.

Q. "Worcester, 43 cents"?
A. Yes.
Q. "Lowell, 41 cents"?
A. Yes.
Q. "Cambridge, 58 cents"?
A. Isn't Cambridge 39 cents?
Q. No, that is North Adams. "Fall River, 59 cents"?
A. All right.
Q. If there is any mistake about it you can correct it. Does that appear to be correct?
A. Yes, as stated in this table, based on thousands of annual cubic feet of sales.

3843 By Mr. BURR:

Q. As you have previously stated?
A. As I have previously stated.

WILLIAM HALLOCK, a witness called on behalf of the State, being first duly sworn, testified as follows:

Direct examination by Mr. KIRBY:

Q. Are you a graduate of any university or technical school?
A. I am a graduate of Columbia University, with the degree of Bachelor of Arts, and the University of Wurzburg, with the degree of Doctor of Philosophy.
Q. Do you occupy any Chair upon the faculty of Columbia University?
A. I am Professor of Physics, Columbia University, and present Dean of the Faculty of Pure Sciences.
Q. As such and during your studies, have you given any special attention to matters having to do with photometers, electric measurements, electrolysis and kindred subjects?
A. As professor of physics I have had my attention devoted to such subjects for upwards of fourteen years.
Q. Have you during the past two years made any special studies in reference to candle power of gas which is furnished in the Borough of Manhattan, the illuminating efficiency of the flame and kindred matters?
A. I have.
Q. You appeared as a witness in behalf of the State before the Stevens Investigating Committee on this subject of candle power, did you not?
A. I did.
Q. Are you a member of any scientific societies or associations?
A. I am a member of the American Physical Society, Fel-
3844 low of the American Association for the Advancement of Science, and the New York Academy of Sciences.

Q. I call your attention to the testimony of Alexander C. Humphreys, given at this hearing, pages 1938 and 1939 thereof, where, in answer to certain questions having to do with Mr. Humphreys' qualifications, as to his being qualified to testify upon the subject of electrolysis, the Master states: "If a little electricity is bad, a great deal more will be worse, will it not?" Also, to the testimony of President Humphreys appearing on pages 2160 and 2161, where he states:

"Q. I was not talking about taking care of your mains out of this five cents until you said you were? A. No, sir, you spoke of electrolysis and asked if I had included that in the depreciation for the mains and I distinctly said I had not.

"Q. Yes, I think that is correct. Then, to this speculative field of electrolysis about which we know nothing, whether it will depreciate or not? A. I don't know whether you know about it or not, sir, but I do know. I know it is a very serious hazard in the business, and very serious. Wherever there are any stray currents we expect electrolysis more or less and there are stray currents in the City of New York."

Mr. MATHEWSON: Whose testimony is that?

Mr. KIRBY: Dr. Humphreys'.

Q. Now, I take it, professor, except in a general way, you are not familiar with the conditions of the pipes and mains and electric elements in the streets in the City of New York or the Borough of Manhattan?

A. No; except in a very general way.

Q. But you are, are you not, familiar with the physical law
3845 as electrolysis applies not only to electrical current, but to the chemical-physical action known as electrolysis which the same may set up under proper conditions? You are so familiar, are you not?

A. I am.

Q. If a current is passing through a pipe or other conductor will or will not such current produce a harmful effect upon that conductor?

A. It will not produce any harmful effects unless the strength of the current is sufficient to heat the conductor.

Q. And that would not be an electrolytic effect, would it?

A. No.

Q. Under any circumstances will a current flowing to a conductor of any kind produce any harmful electrolytic effect?

A. No.

Q. Under what circumstances and conditions can there be such an effect as electrolysis?

A. Electrolysis takes place when a current of electricity passes from one element through a material, which is usually a solution, technically known as electrolyte, and leaves this solution to enter upon another conductor. Under these circumstances the passage of the current through the solution or the semi-solution produces the physical-chemical reaction known as electrolysis.

Q. In other words we must have first of all an electric current; next we must have a conductor carrying that current; next a solu-

tion which is a conductor of electricity, and next some other conductor to which the current will pass if the current is able to pass through this solution; and then, in addition to that, am I right, that you must have a sufficient voltage or what is commonly called pressure to decompose this solution before any other electrolytic action can be set up? Is that a correct statement of the conditions?

A. That is a correct statement.

Q. Now, if it be that a gas main is the conductor to which
3846 the current flows what would be the effect if there were stray currents and electrolyte and therefore what is known as electrolysis?

A. If the current is flowing to the gas pipe the electrolysis would produce no injurious effects upon the pipe.

Q. If there would be any effect it would be that of depositing upon the pipe such substances as might be carried over through the electrolyte? Am I right in that?

A. Yes.

Q. This, therefore, would be a deposit upon the gas main rather than taking away any substance from it?

A. Yes.

Q. And after the current reached the gas main, in its flow through it, unless the current should be so great as to produce a heating effect sufficient there to melt the pipe or the lead caulking thereof, there would be no harmful results produced, in your opinion?

A. No.

Q. Now, I take it that it is a general law, a general law of the flow of electric current, as well as of most other forms of energy, that it always seeks the path of least resistance; am I right in that?

A. Correct.

Q. So that if we had a street in which were placed gas mains, water mains, and various cables covered with lead sheathing, such cables as are in general use for telephone and telegraph wires, we would find a condition, would we not, in which the tendency would be for the current to follow the continuous path such as is afforded it by the continuous lead sheathing of these cables rather than to follow a gas main or a water main where the path is broken by the pipes being of sections joined or caulked together?

A. The tendency would be to follow the continuous metallic path in preference to broken paths.

Q. The passage of current through a semi-fluid or material, or say moist earth, which through drainage or otherwise had become
3847 somewhat permeated with salts, would, I take it, have the effect of decomposing the moisture in such earth and leaving the earth itself in a dry condition; am I right in that conclusion?

A. That would be the general tendency. It would depend somewhat upon the dissolved salts.

Q. What other effect, if any, might take place?

A. The salts would be accordingly removed from the solution by electrolysis, and then if it were carried on still further the water would undoubtedly be removed also.

Q. And that taking place, what would be interposed to the path of the current from one metallic conductor to the other where formerly the damp, moist earth was and in which the electrolytic action would be set up?

A. The action would be to increase the resistence offered by the moist earth.

Q. Increasing the resistance would mean that the amount of current which would flow would be increased in the same proportion?

A. Decreased in the same proportion.

Q. Decreased, I mean, in the same proportion?

A. Yes.

Q. If we had a current flowing upon a gas main or other conductor and another current, or no current, flowing upon an adjacent conductor and there were damp earth or a liquid between such conductors so permeated with salts as to make the same a proper electrolyte, would it necessarily follow or would it follow at all that there would be any electrolytic action or current flowing between the two?

A. That would depend upon the salts involved in the solution and the strength of the current in the pipe carrying the current and the relation of the strength of current to the resistance which the pipe offered to the current.

Q. And, in other words, it would depend very largely upon
3848 the voltage which would be necessary to start electrolytic action and to overcome such resistance which might be in the electrolyte?

A. Yes, it would depend upon the existence of a sufficient pressure between the pipe carrying the current and the pipe carrying no current to overcome the counter-pressure of the electrolyte.

Q. I ask you if you have read the Act in relation to illuminating gas in the City of New York, etc., being Chapter 125 of the Laws of 1906, and especially Section 2 thereof, having to do with the candle power of the gas which is to be furnished and the pressure under which it is to be furnished?

A. I have.

Q. I call your attention to the testimony of President Humphreys, given at pages 2096, 2097, 2098, 2099, all of which is in reference to the candle power of the gas and the flame and the proper pressures and especially in reference to the question at the bottom of page 2099, as follows:

"Q. We will disregard the Bray burners, and the check burners and the anti-swirl burners, and come down to the burner used by the plain people, and which under 7/10ths of an inch, 22 candle power, will produce the best results. Now, if you take that burner and increase your pressure by an inch, what would be the result on the illuminating quality of the gas? A. Let me say, first of all, that we cannot disregard the swirl burners and all those things and come back to the burners used by the ordinary people, because I am talking about the burners used by the ordinary people. As I have said repeatedly, and I am not trying to quibble about any extraordinary burner, if you have seven-tenths pressure on a burner

and increase it an inch the effect would be to reduce the can-
3849 dle-power probably, and the amount could not possibly be told until you took that particular burner and the particular gas to determine it by experiment."

And also more especially to the question and answer at the bottom of page 2179 and the top of page 2180, as follows:

"Q. Is it not one of the fundamental principles of gas engineering to keep down the pressure? A. Yes, to a point where the consumers will get a sufficient supply for their appliances, the result being that of late years the demand is for a much higher pressure than when I first went into the business.

"Q. What is the reason for that, in your judgment, for that change? A. Well, you need*ly* hardly put it my judgment. It is simply the fact that since I have been in the gas business that the appliances brought in require higher pressure than they did in the older days, when they practically used argand and flat-flamed burners, and the superintendents of the works were nearly all hipped on the idea of keeping the pressure down, so that they would dissatisfy the consumer, and I frequently had to threaten my superintendents with discharge, for the reason that they would not supply the gas stoves and other appliances because they were either afraid there would be a leakage or afraid that I would wig them on that."

Now, I understand, or is it not a fact, that you have, as is suggested by President Humphreys, taken particular burners and particular gas, and determined by experiments various illuminating powers of the flames under various pressures?

A. I have.

3850 Q. And these experiments have been directed towards ascertaining the efficiencies of gas burners and of various burners, and the effect of pressure upon the illuminating quality of gas flame, and also to some extent as to the calorific value of the gas, that is correct, is it not?

A. That is correct.

Q. What gas did you use for these experiments?

A. I used the gas that is furnished to Columbia University, Fairweather Hall, at Amsterdam Avenue and 118th Street, which I believe is the Consolidated Gas Company's gas; the meter bears the name of the Consolidated Gas Company.

Q. Did you take any precautions during your experiments to be sure that the gas did not vary either in chemical constitution or in illuminating power?

A. I took precautions of two kinds: during many of the experiments the precautions were taken of running tests of the illuminating power to see that the quality of the gas was not changing seriously, and in other cases the supply of gas for a particular test was drawn off and stored in a small holder, so that a sufficient supply was available that would be entirely free from variation.

Q. In other words, you took the gas from the mains of the Consolidated Gas Company, drawing it into a small holder, and it was the gas from that holder that you used in making an experiment about which you are now going to testify?

A. Part of them. Not all of them, but part of them.

Q. And in such instances that you did not use this holder you from time to time checked off the gas to be sure that it did not vary in candle power during the time of the tests?

A. I did.

Q. As a standard for the candle power did you use that set down in the Act from which I now read, that is, "22 sperm candles of six to the pound, burning at the rate of 120 grains of sperm*aceti* per hour"?

A. I did.

3851 Q. And how did you interpret that Act where it says that the illuminating power shall be given by a burner consuming five cubic feet of gas per hour? What did you take the words "by a burner" to mean?

Mr. MATHEWSON: Do you mean what he used in his experiment?

Q. What did you use in your experiment?

A. I took it for granted that in selecting a burner for the experiments on candle power to determine whether the gas supplied complied with the requirements, that the burner should be as favorable a burner to the company as could be consistently selected without going to some extreme of unusual or impracticable burner and on that account selected what is known as a Bray burner of the slit type.

Q. Is this the burner which is commonly known as the Bray No. 7?

A. Commonly known as the Bray No. 7.

Q. Is it your information that this is the burner used by the City gas examiner Love?

A. I have been informed that that is the burner which he used.

By Mr. MATHEWSON:

Q. Has he informed you?

A. No.

By Mr. KIRBY:

Q. And in your opinion this burner outside of the Welsbach or mantle burners is one which under ordinary circumstances will give tests showing the greatest illuminating power of the flame?

A. That has been my experience.

Q. In measuring the pressures in your experiments what point relative to the burner did you use as that from which to take the pressure?

3852 A. In all cases except one the pressure was taken immediately behind the opening of the burner and consequently represents the pressure under which the gas is issuing into the air.

Q. In other words, the pressure was taken where the pressure might be said as having been taken at the tip?

A. At the tip.

Q. In those experiments in which you used what is commonly known as the check burner, at what point did you take the measurements?

A. In the series of tests which I made with one form of check burner the pressures were taken behind the check and in this case

represented the pressure under which the gas is passing through the check.

By Mr. MATHEWSON:

Q. Not the pressure after it has passed the check?
A. No, not in this series to which reference is now made.

By Mr. KIRBY:

Q. Now, taking up your experiments, which burner did you use for the first series?
A. The first series of tests were made with what is ordinarily called the bat-wing, lava-tipped burner, marked six foot.
Q. And how did you come to use this burner?
A. That was the burner with which I had been most familiar as a gas consumer in New York City for fourteen years, being practically the only one that I had had any experience with. It is the kind used in the apartments in which I have been living and the one which I have seen in the apartments of friends.
Q. Have you such a burner with you?
A. I have (producing a burner).
3853 Q. The burner produced by the witness and which I hold in my hand, is what in your opinion is known as the "common or garden" bat wing, lava tipped burner, with which you have had experience for some fourteen or more years in the City of New York?
A. It is.
Q. Now you used other burners in your experience, did you not?
A. I did.
Q. What other burners did you use?
A. I used a burner similar to this except marked four foot and a Bray fishtail burner, and a burner with a metal tip also of a fishtail variety, the trade name of which I do not know.
Q. Have you such burners with you, or one similar to those you used?
A. Yes (producing a number of burners).
Q. In your experiments, Professor, you used among other burners a six-foot, lava-tipped, bat-wing burner. Is this that burner?
A. It is.

Mr. KIRBY: I offer that in evidence.
Received and marked State's Exhibit X.

Q. There is no check in this burner?
A. No.
Q. You also used a similar burner, the same being four foot instead of six foot, didn't you?
A. I did.
Q. Is this the burner which you used?
A. It is.

Mr. KIRBY: I offer it in evidence.
Received and marked State's Exhibit Y.

Q. You also used a metal-tipped fish-tail burner, the same being unchecked. Is this the burner which you used.
A. It is.

Mr. KIRBY: I offer it in evidence.
Received and marked State's Exhibit Z.

Q. You also used a burner similar to the burner last placed in evidence, being a metal-tipped fish-tail burner with the difference
3854 that this burner is checked. Is that the burner which you used?
A. It is.

Mr. KIRBY: I offer that checked burner in evidence.
Received and marked State's Exhibit AA.

Q. You also used what is known as a Bray No. 7, the same being a lava slit tipped burner, being a Bray slit Union, but in your experiments you removed the check, didn't you?
A. I did.
Q. And is that the burner which you used?
A. It is.

Mr. KIRBY: I offer that in evidence.
Received and marked State's Exhibit BB.

Q. Now, in your tests made with the Bray No. 7, which you stated is the one which would give the greatest efficiency of the flame, and which were directed only towards the candle-power of the gas furnished, irrespective of the pressure under which it was furnished, did or did not you find that the gas was of as high a candle-power as 22 for five cubic feet burned per hour, tested in the manner set down in the statute?

Mr. MATHEWSON: If the Master please, I think that if we are going into the subject in this way, we are going to spend a good deal of time on something that is entirely outside the issues. The law requires that our candle-power be 22 a mile from the works, and that it be tested by the city. It frequently happens, by reason of small house pipes or some cause or another, that at a much greater distance, or beyond the testing station possibly, the candle-power may fall, but
that is nothing for which we are responsible, and it argues
3855 no violation of the law. This witness was called to testify before the Stevens Committee, where it was a question as to what law, as a matter of policy, should be advised. We are now met with the law as it is passed, and the question as to pressure is whether we can conform to that pressure, whether we can conform to it; and as to candle-power, if we keep our candle-power at the city testing station as required by law, our duty is performed. I do not quite understand how we are going to be advantaged by taking private tests at other points where various elements may enter in, showing that they are or not so high as 22 candle-power. We can bring in rebuttal perhaps, a great many other private tests, made at different points, showing it is above 22 candle-power at those points, if this witness says he has found it in these instances below 22 candle-power.

Mr. KIRBY: May I ask from what the learned counsel infers that his tests show it was not above 22 candle-power?

Mr. MATHEWSON: I do not. I make the objection in entire ignorance of what the witnesses is going to testify to, but merely drawing attention to the fact that that is not an issue before this tribunal at all and that the tests, whatever their result, would be absolutely worthless and merely a matter of interest, but of no earthly value in the determination of this case.

The MASTER: It does not appear here, Mr. Kirby, does it, that the place where these tests were made, was at a distance or not less than a mile from the distributing holders?

Mr. KIRBY: No, it does not. There is no contention that
3856 they were. The contention is that the witness qualified to make the experiments which he has made, and to give the testimony which he is about to give, in the course of those experiments, found it necessary to take tests of the candle-power of the gas which was furnished by the complainant in this action. Whether those tests were made a mile away or two miles away or right at the holders, nevertheless, they show and have a considerable bearing upon the candle-power of the gas which is being furnished, and certainly if not by themselves, at least in conjunction with the tests made under the strict regulations of the statute, that is a mile from the works and under the other conditions set down therein, would not only be relevant, but certainly, I should think, in every way material to a proper consideration of that question. Now, as a matter of fact, the testimony is not directed towards this one of candle-power of the gas more than it has to do with the experiments which he has made and about which he is about to testify.

The MASTER: That is what I wanted to get at, are the questions that you are about to ask him directed primarily to the matter of pressure?

Mr. KIRBY: No, sir; they are not.

The MASTER: Or simply as to the question of candle power alone?

Mr. KIRBY: The question of candle power as it is affected by pressure.

The MASTER: And do these tests have any bearing on the question of pressure, or are they limited to candle-power?

Mr. KIRBY: They have a bearing upon both. The testimony in this case has been from many witnesses of the complainant that the requirements of the Statute are not only impossible in the
3857 compliance therewith, but are unwise and impracticable; and especially the testimony of President Humphreys, to which I have drawn attention, is to the effect that there should be no such requirement? Now, these experiments will show the grave necessity for such requirements, and before we are through with this and other witnesses, I think we will find that not only is the act a proper one, but that the compliance therewith is practicably possible. That is the reason for this testimony and the reason for other testimony which we will produce.

Mr. MATHEWSON: Let me call the Master's attention to the fact that this Act providing for the tests of candle-power is merely a general act and that it is provided in the City Charter, and by amend-

ment to the City Charter made at the same time that this act was passed, that the tests contemplated in this Act should be made in each borough of the City and by the City Inspectors, so that if we were to be charged with failing to keep up candle power, we could only be charged on the basis of the inspection by the City. That, I think, will be conceded.

Mr. KIRBY: There is no contention to the contrary.

Mr. MATHEWSON: Now, Mr. Kirby says that he proposes to show the candle power as affected by pressure. It is not a question of discretion before this Tribunal as to what Act shall be passed. We have an Act now. It does not make a particle of difference how candle power is affected by pressure. If we could observe the law that had been passed, providing that the pressure should be kept within 2½ inches and 1 inch, between that limit of one and one-half inches, and still deliver gas to our consumers for their requirements,
3858 it would not make a particle of difference to the Master and we could not complain, if that unwise legislation had been passed. The point is that if we maintain the candle power at the figure required by law, we are not subjected to any penalty. But that is not before the Master, but the question before the Master is that we claim that we cannot maintain the pressure within the limits provided by that law. If we can, what the effect will be of maintaining it within that limit is something with which the Master has nothing to do. That is a legislative discretion that has been exercised, and the consumer must suffer, even if it be unwise, if we can accomplish that result. So I cannot see how the question of "how candle-power is affected by pressure," to use the expression of my friend, Mr. Kirby, is a subject which it is worth while to go into here. It is entertaining, but it is certainly not an issue upon which this case can turn.

Mr. KIRBY: Such might indeed be the case, Mr. Master, were it not for the testimony which has been put in by the complainant, and this testimony is largely in rebuttal of that and contradictory to it.

Mr. MATHEWSON: We put in no testimony, Mr. Kirby, except as to the ability to maintain that pressure requirement, and in that connection merely.

The MASTER: Do you mean testimony put in to the effect that it is impracticable to maintain a candle power of that kind without furnishing candle power that is really in excess of that by measurement?

Mr. KIRBY: No, I do not. I mean the testimony has been put in in this case and there are pages of it, to the effect that the
3859 necessities of the present time require a pressure different from that set down in the statute; and even going so far as to contend by such testimony as that pressure regulation, except in a minimum amount, should not be enacted, or if enacted, should be held contrary to the proprieties of the situation and unconstitutional therefore under the act.

Mr. MATHEWSON: No, not for that cause unconstitutional and because it is unwise, but because it is impossible of performance by us and imposes a penalty upon us for something which we cannot perform. Now, if Mr. Kirby will read the testimony carefully, he will

find that in the direcct testimony of the witnesses produced by complainant, we did not ask them as to the wisdom of that provision at all, but simply as to the possibility of carrying it out in practice, and these other questions which he now says were asked, were asked in cross-examination. The only question we may have asked in direct-examination to which he has referred would be the question as to whether there was a maximum regulation elsewhere in the world, of candle power, merely to show the probability of its having been impossible to regulate the maximum; that is all, not the effect of the pressure. And I think the Master will see——

The MASTER: The difficulty in my mind is that I do not see the relation here between the question of candle-power and pressure. If the object of this testimony is to show that the gas company has maintained at the spot where the Professor made his tests a pressure of less than 22 sperm candles, it does not show anything so far as I can see concerning a violation of this law. I do not see how it affects, so far as anything yet made clear to me, the question of press-
3860 ure. If, on the other hand, the object of the testimony is to show that they maintain as a matter of fact an illuminating power of more than 22 sperm candles, I can see that it might have some bearing on the testimony already in the case as to the practicability of maintaining an equable candle-power without necessarily supplying gas of a higher candle-power than that required by the Statute. But Mr. Kirby disavows that and——

Mr. KIRBY: Not that I disavow it, but I say it is incidental to the main purport of these questions and of this testimony.

The MASTER: I do not see, Mr. Kirby, what it has to do with any of the questions before me, on your statement.

Mr. KIRBY: It would have—I concede the irrelevancy of the testimony, were it not that by reason of such testimony as has already been put in, parties representing the State in this matter consider that it is necessary to rebut such statements and inferences as have been made, to the effect that a pressure regulation except for a minimum requirement is unwise, improper and not in use elsewhere, and that therefore the pressure requirements of the Act are not only impracticable of performance, but are unwise and unjust.

Mr. MATHEWSON: Do you think the Master could declare this Act unconstitutional if he found we could perfectly comply with this pressure regulation and still furnish gas to our consumers, but on the whole that the legislation was unwise? I am not crazy enough for an instant to ask the Master for such a finding as that.

Mr. KIRBY: I think not, but the testimony is there, and
3861 as such we are prepared to meet it, and that is our reason for producing this witness.

Mr. MATHEWSON: A great deal was asked on cross-examination of our witnesses and perhaps there may have been something along the line of wisdom, but it was not asked by us and I make no point, and I do not assert that the unwisdom of the statute, if it be merely a matter of unwisdom, is sufficient basis for declaring this law unconstitutional.

Mr. KIRBY: As I have said ofttimes before, that is a legal proposi-

tion subject to argument and about which you and I would probably not differ.

The MASTER: Did you call attention to any testimony of the complainant on direct-examination which in any way shows a connection between this question of pressure and candle-power?

Mr. KIRBY: I did not, but I have no doubt there is much of it. I think the specific statements which I referred to were in the cross-examination——

The MASTER: I see in the testimony of Dr. Humphreys that an increase of pressure means a decrease of candle-power, but that was gone into on cross-examination by Senator Page. I do not recall any direct-examination on that subject. I think the direct-examination was limited simply to the question of practicability of maintaining the pressure provided by the Act.

Mr. MATHEWSON: I think so, as I conducted the examination, the practicability of observing the Act, not the wisdom of passing the Act.

The MASTER: I do not wish to curtail in any way the scope of your evidence, Mr. Kirby, but at the same time I hesitate, in
3862 view of the great volume of material we have here already, in opening up a line of proof that may involve considerable time, unless I am convinced of its materiality.

Mr. KIRBY: If it be the fact that there is no direct testimony on the part of the witnesses of the complainant to the effect that I have tried to indicate, and if from that fact it follows, that testimony of the kind which is here produced is not relevant or material, then certainly such testimony as is in the record under cross-examination would not be relevant or material, and if the Master is prepared to rule that the rebuttal of such testimony is not competent, why, I will take an exception and take about ten minutes to put it in under the rule. But the Master will certainly find much upon the point.

Mr. BURR: I call the Master's attention to page 2100, the examination of Dr. Humphreys.

The MASTER: Yes, that is on cross-examination, I think.

Mr. MATHEWSON: Yes, on cross-examination. Was it cross-examination by Senator Page?

The MASTER: Yes.

Mr. MATHEWSON: And he is associate counsel for the State.

Mr. KIRBY: The question asked, however, is certainly relevant. Such questions as may be asked may under your ruling have a contrary bearing——

The MASTER: It is the question as to the general line of testimony that we have been considering, as to the subject of these individual tests on the subject of candle-power. I do not myself see the materiality of it. I think I will sustain the objection and let
3863 you put it in under exception.

Mr. KIRBY: You will not reject the testimony in answer to this question as to whether he found the gas he experimented with to be over or under 22 candle-power, because that has a direct bearing upon all the testimony which is put in.

The MASTER: I will let him answer that.

Mr. MATHEWSON: If this testimony goes in, whatever it may be, and although it is excluded and goes in under an exception, I shall of course feel at liberty to present anything in rebuttal of it I see fit. And I have not made any objection here because I have hesitated at all to meet the proposition, but merely because it did seem to me to be outside the issues and to be consuming time.

Mr. KIRBY: I do not think we will find the time consumed of any considerable length. Will you read the question.

(Stenographer reads question as follows: "Now, in your tests made with the Bray No. 7, which you have stated is the one which would give the greatest efficiency of the flame and which were directed only towards the candle-power of the gas furnished, irrespective of the pressure under which it was furnished, did or did not you find that the gas was of as high a candle-power as 22 for five cubic feet burned per hour tested in the manner set down in the Statute?")

Mr. MATHEWSON: I wish to make an objection that it is not rebuttal of anything offered on the direct, and that it is also immaterial and irrelevant to any of the issues before the Master, and I understand the Master's ruling to be——

3864 Mr. KIRBY: The Master has not ruled against that question.

The MASTER: Now that it is read, I think I do rule against it. When you put it a moment ago to me, you asked as to whether it was greater or less.

Mr. KIRBY: I will withdraw that question and will put this question.

Q. The gas which you use in the experiments and which you tested as to its candle-power, did you find that it was of a greater or less candle-power than 22, being the illuminating power required by the statute?

Mr. MATHEWSON: Same objection.

The MASTER: Objection overruled.

Mr. MATHEWSON: Exception.

A. I found that on a consumption of five cubic feet per hour, the candle-power was above 22.

Mr. KIRBY: Now, the questions which I am about to ask have to do with the experiments made by the Professor, which go to show the change in the illuminating efficiency of the gas due to the variation in pressure, and I understand that those questions are objected to and the objection is sustained and I except and I put them in under the rule.

Mr. MATHEWSON: And I may, without objecting to each one, be understood as having objected to each one?

The MASTER: Yes.

Mr. KIRBY: That is what I understand.

Mr. MATHEWSON: Then I shall not interrupt the witness.

Mr. KIRBY: We wish to take up as little time in this under the circumstances as possible.

3865 Q. Your experiments have been conducted mainly to show the effect of variation in pressure upon the illuminating efficiency of the gas, have they not?

A. They have.

Q. In the types of burners which you have used, and which types have been placed in evidence, at what pressure did you find the point of greatest efficiency for 22 candle-power gas?

A. In practically all cases, under a pressure of one inch at the tip.

Q. In the bat-wing burners, being State's Exhibits X and Y, did you find that the point of highest illuminating power per unit of gas was below an inch and if so, at about what point?

A. I found that the maximum efficiency was attained at pressures in the neighborhood of half an inch at the tip.

Q. What change did you find as the pressure increases to one inch?

A. The efficiency gradually decreases as the pressure under which the gas is consumed increases.

Q. And is this more particularly true as the pressure increases from one to two inches than from one-half inch to one inch?

A. It is, yes. The decrease in efficiency is generally more rapid after pressures of one inch to one and one-quarter inches are passed.

Q. Now from two inches on, what do you find is the effect of pressure upon the illuminating powers?

A. From two inches on, the illuminating power of the flame decreases very rapidly, and in most cases becomes practically non-luminous at pressures of about three to three and one-half inches, and is actually blown out by pressures ranging from seven to twelve inches.

Q. And is this generally true of all open flame burners, such as you have experimented with?

A. The experiments were only carried to moderate pressures in the other forms of burners, but up to pressures of one and
3866 one-quarter to one and one-half inches, the effects were the same.

Mr. MATHEWSON: The same as——

The WITNESS: As in the bat-wing.

Mr. MATHEWSON: The two bat-wing burners?

The WITNESS: Yes.

Q. Did you also make experiments with the mantle burner which is commonly known as the Welsbach burner?

A. I made some experiments with the Welsbach burner. In this case the conditions are more complicated owing to the more complex regulation of the mantle burners, and I found that a Welsbach burner that had been regulated for a lower pressure maintained practically the same candle-power as the pressure increased up to a point where the regulation was no longer satisfactory and consequently the efficiency fell off very rapidly. On the other hand, a burner regulated for a high pressure became inefficient at low pressures.

Q. Would a general statement to the effect that in a Welsbach burner the pressure will not produce any greater candle-power per unit until it reaches some high figure, such as twenty or thirty inches be true?

A. I believe that the pressure under which the gas is furnished

to the Welsbach burner would not produce any variation in its efficiency if properly regulated to the pressure until the gas is under sufficient pressure to produce a flame of an entirely different character, and this would probably require some such pressure as that referred to.

Mr. MATHEWSON: Twenty or thirty inches.
The WITNESS: Twenty or thirty inches.

Q. If a Welsbach burner were regulated by the ordinary
3867 attachments which are upon such burners for the pressure of gas at one inch and such pressure were increased, would or would not the efficiency of the flame increase in accordance with the experiments which you have made?

A. The efficiency would not increase but would in general decrease.

Q. You have also made some investigations in regard to pressures applied to the use of gas for fuel, that is in stoves and other appliances which use illuminating gas in that way. What is your conclusion therefrom relative to the need for pressure and as to how high such pressure should be for such appliances?

Mr. MATHEWSON: Well, is this based upon experiments and if so, it seems to me the results should be given. I do not think this witness is competent to speak on that subject, it is a conclusion. He has never operated a gas plant or been in the gas business so far as I know. It has not been shown.

Mr. KIRBY: Certainly he is qualified to speak as to whether or not gas under certain pressure produced the best calorific power for gas stove or range or anything of that kind. A man does not have to operate a gas business to be competent to testify as to what the heating effects would be. A physicist who has spent all his life, you may say, in making experiments of that kind is certainly as well qualified as one who has run a gas works.

Mr. MATHEWSON: I think the question is too broad and I object and make a further objection in addition to the standing objection.

The MASTER: This comes under the same objection as the other testimony. The testimony is of the same general character, I assume?

Mr. KIRBY: Yes.

3868 The MASTER: I will consider it in the same way and sustain the objection upon the ground of materiality and relevancy and give you an exception.

Mr. KIRBY: Exception.

A. I have made tests showing that the actual calorific value of gas when burned at different pressures is practically the same and the question of the practical efficiency of the gas for heating purposes as affected by pressure depends upon the burner and stove conditions under which it is consumed and for appliances of this sort of the character in general use.

Mr. MATHEWSON: Did you mean gas ranges?

The WITNESS: Gas ranges, gas burners and gas heaters, do not require a pressure of over an inch at the tip.

Q. Now, you have set down the result of your experiments, and the deductions therefrom in certain tables, and I ask you if the result of experiments with the commercial 6-foot lava tipped bat wing burner, being States Exhibit X, are correctly set down in the three tables headed "Series 1, five tests; Series 2, six tests; Series 3, four tests?

A. They are.

Q. I ask you if the result of your experiments with the commercial 4-foot bat wing lava tipped burner, the same being Exhibit Y, are correctly set down in a table headed, Series 4, commercial 4-foot bat wing lava-tipped burner, four tests?

A. They are.

Q. I ask you if your experiments with the Welsbach burners are correctly set down in a table headed, "Welsbach against Argand," Series 5, three tests, regulated for 1.54 inch pressure, and in another table, the same being headed, "Same burner regulated for 2.35 inch pressure?"

3869

A. They are.

Q. The latter table being series 6 of experiments?

A. Yes.

Q. I ask you if your experiments with the commercial 6-foot fishtail burner, No. 5, with the check removed, being State's Exhibit V, are correctly set down in the table headed, "Table 7, Commercial 6-foot fishtail burner, No. 5, Check removed?"

A. They are.

Q. I ask you if the result of your experiments with the burner, State's Exhibit AA, are correctly set down in the table headed, "Serie. 8, being commercial fishtail No. 5, checked?"

A. They are.

Q. I ask you if your experiments with State's Exhibit BB are correctly set out in table headed, "Series 9, Bray No. 7, Standard?"

A. They are.

Q. And I ask you if the tables and statements headed, "Bat wing lava tipped commercial 4-foot, bat wing lava tipped commercial 6-foot, and Series 10 and Series 11" are further results of your experiments with such burners, being State's Exhibits X and Y?

A. They are.

Mr. KIRBY: I offer these statements in evidence.

Papers received and marked State's Exhibits CC, DD, EE, FF, GG, HH.

Q. In these tables which have been placed in evidence, and especially those marked State's Exhibits CC, DD, FF and GG, you have indicated under various pressures the rate of burning in cubic feet per hour and the actual candle-power of the flame, the efficiency of candle-power per cubic foot per hour the candle-power for five cubic feet per hour and what 200 hours of 22 candle-power light under

those various conditions would cost with gas at 80 cents
3870 and what such 200 hours of 22 candle-power light would cost under those varying conditions with gas at $1.00 per thousand cubic feet, have you not?

A. I have.

Q. Have you taken the results of your experiments, shown in pages 1, 2, 3 and 4 and reduced them in the form of two curves, one showing the candle-power per cubic foot per hour and the other the cost of 200 hours at 22 candles, and if so is the chart which I show you the result of your experiments and the computations therefrom?

A. I have done so, and the chart is the result of those calculations and that plotting of the curve.

Mr. KIRBY: I offer that in evidence.

Paper received and marked State's Exhibit H.

Q. From such chart can you tell us what effect the increase in pressure has upon the cost or of the illuminating efficiency of the light or illuminating power of the light.

Mr. MATHEWSON: Does it not show in the diagram he has made from his experiments what they show. He says this graphic print illustrates it.

Mr. KIRBY: I want him to say it in words.

A. It shows that in the experiment in question the effect of the increased pressure from .4 of an inch to 1.35 of an inch resulted in an increase of the cost of 22 candles of lights for 200 hours from 86 cents at .4 of an inch to $1.26 at 1.35 inches.

Q. Have you, Professor, assisted Mr. H. H. Edgerton in making certain tests and taking certain readings upon and in reference to the pressure of the gas furnished by the Consolidated Gas Com-
3871 pany where the same is supplied to the buildings of Columbia University?

A. I have.

Q. Are you familiar with the apparatus with which such experiments were made?

A. I am.

Q. Do you consider that such apparatus is one that is proper for such experiments?

A. I do.

Q. Do you consider that such experiments were made in a proper and scientific manner?

A. I do.

Q. And that the calculations therefrom as the same have come under your observation are accurate and correct?

A. I do.

Mr. KIRBY: That is all.

Recess until 2:15 P. M.

After Recess.

WILLIAM HALLOCK resumes the stand.

Cross-examination by Mr. MATHEWSON:

Q. You stated that you were Professor of Physics. I think you testified before the Stevens Committee that you were not a chemist, did you not?

A. I am not what would professionally be known as a chemist. Naturally, however, a physicist nowadays has to know more or less chemistry.

Q. Have you ever had the management of any industrial concern, or has your life been devoted to your profession of teaching or learning?

A. I never have had charge of any industrial concern. I was for nine years physicist for the United States Geological Survey.

Q. Have you ever been connected with any gas or electric business?

A. Commercially?

Q. Yes.

A. No.

3872 Q. Referring to the subject of electrolysis, you say that the damage does not occur where it occurs in gas pipes by the entry of the current into the conductor. It does occur, does it not, as an effect of the leaving of the conductor by the current?

A. Yes.

Q. Now, as a matter of fact it is not true, is it, that a current of electricity, and the entire current, follows the best conductor?

A. The current, if it has a choice between conductors, will divide in inverse proportion to the resistance of the path.

Q. Precisely, so that if electricity has a good conductor, and there comes in contact with the current a much poorer conductor, a portion of it will follow the poorer conductor although the greater portion will continue with the good conductor, is that right?

A. That is right. In inverse proportion to the resistance to the current along any path.

Q. Now, having settled these points on which we agree, let us find what you mean by a solution. You have stated that a current, for instance, in leaving a pipe, in order to do damage to the pipe, must meet some sort of a solution, did you not?

A. Yes, sir.

Q. What is a solution, as you define it, in that connection?

A. I should define it in that connection as water in which certain salts are dissolved by certain substances.

Q. Well, would you really say water? Is not moisture or dampness which exists in the ground a solution or may it not be a solution without being in such form that you could dip it up in cups?

A. Oh, yes.

Q. In other words, a solution may mean simply moisture, may it not?

A. Moisture as it occurs in the ground is in general a solution.

Q. And it is in fact in pretty nearly all ground except very sandy ground, and even there when you get down a little you find moisture is in it?

A. Yes.

3873 Q. Now, you spoke about the salts in solution being absorbed, did you not, or something of that sort when traversed by an electric current?

A. Decomposed.

Q. Is it true that the salts resulting from iron are decomposed, or if decomposed are they not merely changed in character without being destroyed?

A. The salts of iron if in solution—the action upon the salts would depend upon whether you had in mind the point where the current enters the solution or where it leaves the solution.

Q. Well, make the distinction yourself?

A. In the place where the current leaves the solution the end result would be the production of metallic iron; and the place where it leaves the conductor to enter the solution, the other component of the salt would be liberated and might or might not indicate a secondary decomposition.

Q. Well, the moisture of the ground which would carry a salt, or might, would be constantly renewed in a climate such as this by the action of the elements, wouldn't it, even if they were disposed of to some extent, currently, by the electric action?

A. Likely to be.

Q. When once disposed of it would not follow it might not be there again next day?

A. If it happened to be under an asphalted street there would not be very much there the next day.

Q. Don't you think that the soaking in or absorption in one form of action or another of moisture from sewers and from the ground which becomes dampened by sewers, would be felt?

A. Undoubtedly to some extent. It would be a quantitative question rather than a qualitative one.

Q. And when the current leaves the pipe and meets with these solutions that is when the pitting occurs in the pipe, isn't it?

A. Yes.

Q. You spoke about it being necessary, or rather Mr. Kirby
3874 did, that there should be sufficient voltage for decomposition of the solution in order to set up this action. What would be the minimum voltage required for that purpose?

A. It would depend upon the metals involved and upon the nature of the salts in solution.

Q. Well, if you take the ordinary cast-iron pipe such as we find in the mains in the City of New York generally and such salts as you ordinarily find here——

A. I would say that that would be according to those circumstances somewhere between possibly one and five volts at the actual surface.

Q. At the point of leaving the pipe?
A. Yes.
Q. How would it be with wrought iron?
A. It would be very much the same.
Q. Now, I assume as a matter of course that the multiplication of the subways in the City of New York and the use of electricity on the elevated road where they do not have especially return conductors as they do for the street surface railways, would tend to increase the number and importance of stray currents in the earth, would they not?

Mr. KIRBY: The Professor has testified——
Mr. MATHEWSON: Other things being equal?
Mr. KIRBY: Then assume that that is so, and do not make the witness by his answer infer that what you say is so.

A. The conditions, if any further change in any other respect were made to increase the quantity of electricity we use would naturally be to increase the stray currents.
Q. And assuming that there is no insulated return conductor provided for the current, such a condition would tend to let more currents astray than if you were dealing with an insulated system, would it not?
A. Yes.
3875 Q. And would the electrolysis, in your judgment, if it once got fairly in operation be a serious menace to the integrity of pipes, especially of iron pipes?
A. Certainly, if it got fairly at work and kept up working it would be a menace to pipe.
Q. Have you read in connection with your readings the statement of Mr. Cowdery, the manager of the Laclede Gaslight Company, that the services in St. Louis in cases under his personal observation have to be renewed once in two or three weeks on account of their destruction on account of electrolysis?
A. I have not.
Q. If that be true, that would indicate a very serious situation, would it not, in a distribution system?
A. It would if it were true, yes.
Q. Now, in reference to the candle power and pressure, you say you used in your experiments the gas which you obtained at Fairweather Hall, Amsterdam Avenue and 118th Street?
A. Yes.
Q. Were all of these tests to which you have testified and which are shown in these tables which you have presented, obtained with that gas ?
A. They were.
Q. And in each of these tables was the gas drawn for your experiment from the tank into which you had first segregated it?
A. As I believe, in series of seven and eight.
Q. That is Exhibit FF. As to the other sheets, your tests were

made by the gas furnished directly from the burner or service pipe of the company without first being drawn off into a separate tank?

A. Yes.

Q. You said at the outset that you checked the gas as to chemical composition, did I understand?

A. I certainly intended to convey no such idea. If I answered the question so that it conveyed that idea I should like to correct it. I made no chemical tests further than of illuminating power.

3876 Q. You did not make any tests of this gas to determine its chemical composition as to specific gravity or the amount of the possible ingredients, Marsh gas or otherwise, which entered into it?

A. No.

Q. Of course the specific gravity of the gas is influenced, is it not, by the elements of which it is composed, even with the same candle power?

A. Yes.

Q. And so, too, the calorific value of the gas, the heat units are influenced by the constituents of the gas?

A. Yes.

Q. And a coal gas of a certain candle-power will have a greater value of calorific value will it not, than a water gas of the same candle-power?

A. That I don't know. I never made such tests.

Q. When were these tests made indicated in these statements?

A. They commenced about the first of October and practically all of them were included in the month of October.

Q. 1906?

A. 1906.

Q. What does this mean on the table, State's Exhibit CC, "X.1. 1906"?

A. It means the series was made on the 1st of the 10th month of 1906.

Q. And the similar characters on the other sheets similarly indicate the date?

A. The date on which the series was made.

Q. The hour does not appear to be stated in these tables, at which your experiments were made?

A. No.

Q. Are you able to state the hour at which they were made?

A. I am not.

Q. Were they made in the daytime?

A. Some made in the daytime, some made in the evening, some made pretty late at night.

Q. Were they made in the afternoon or evening, most of them?

A. No, I think most of them were made in the forenoon or evening. The first series I happen to remember was made in the evening.

3877 Q. State's Exhibit CC?

A. Yes, the first series.

Q. Now will you describe in detail the method which you pursued in reaching the candle-powers indicated on these charts. In the first place, assume that you did not use the jet photometer, as you did before the Stevens Committee, did you?

A. I used a jet photometer as I used when working for the Stevens Committee for certain purposes, and I used the same apparatus as I use for determining the absolute candle-power.

Q. As you used then?

A. No, as laid down in the law. The law says, "candles." I should not, as long as working out my ideas—scientific ideas, resort to candles.

Q. What would you resort to?

A. I should consider by all odds the electric standard is the best standard at the present time.

Q. You would not consider a jet photometer was a scientifically accurate instrument?

A. It was not used as a standard.

Q. You would not consider it a scientifically accurate instrument?

A. No, sir, I should not.

Q. You used the ordinary bar photometer?

A. I used the ordinary bar photometer, yes.

Q. Did you yourself make these observations?

A. I did.

Q. Is it a bar photometer which is in use in the laboratory of the university?

A. It is a bar photometer which was put in there for these tests.

Q. Who was the manufacturer of this photometer?

A. The American Meter Company.

Q. Had you had experience in the use of the bar photometer before this was put in?

A. I had.

Q. Extensive.

A. Very extensive.

Q. When was this put in?

A. This was put in about the first of October.

Q. Did you use sperm candles?

A. I did.

3878 Q. How were the standard verified? Were the candles weighed by you?

A. Yes.

Q. Did you find that their weight corresponded with what it purported to be?

A. Yes.

Q. Now, will you state the steps you took in getting the candle-power?

A. In determining the candle-power according to the statute, the burner was placed at one end of the bar, the gas passing through the meter, and in my case with the proper arrangement for measuring the pressure at the tip of the burner and passing through a regulator to maintain the pressure uniform. The burner in question was regulated as to flow of gas until the flow was as nearly five cubic feet per hour as practicable, and then at the other end of the bar is

mounted the so-called candle balance in which two standard candles are mounted upon one arm of the balance and the distance from the candle to the burner to be tested is the length of the so-called bar. The candles are lighted and after they are in proper condition, burning long enough to get in practical uniform condition, the test is commenced and the time of the test is started when the pointer on the candle-balance passes the zero mark. The weight is adjusted first so that the candles are slightly too heavy for a perfect balance, as they burn down they become lighter and as the pointer indicates a perfect balance the experiment commences. Then during the experiment the rate at which the standard burner is consuming gas is observed, and a series of settings of the screen is made on the bar. This series of readings usually consists of a series of ten made approximately one minute apart. The test ordinarily is arranged to last for ten minutes during which time the candles are supposed to burn forty grains. Before the end of the test two small weights equivalent to forty grains are placed in the pan with the candles whereupon the pointer passes again into the light side of the
3879 zero and the experiment is continued until the pointer passes the zero mark again and the time is taken. Then there are two corrections that are to be applied to the average of the settings taken during the test. One is to test for the consumption of gas provided the burner did not consume exactly five cubic feet per hour, and the other is to test the candles which may not have burned exactly at the rate of 120 grains per hour.

Q. You reweighed the candles after the conclusion of the test to see what had been burned?

A. I did not. The amount that has been burned is determined by the addition of the small weights representing what the amount that is supposed to be burned during the test would be if they burned at the normal rate consumed in ten minutes.

Q. Is not the amount usually burned checked up by reweighing the candles at the conclusion?

A. That is practically impossible because that would mean that we would have to start the candles at the beginning of the test, light the candles at the beginning of the test, because you would have to weigh the candles at the beginning of the test; then you would have to light the candles and they would burn irregularly. It takes you some time to get ready and start it up; and if you stop the test by blowing the candles out, that is perhaps more easily possible than starting them up accurately; but the ordinary method, and it seems to me the much better method, much better approximating to something like scientific accuracy, is to determine the loss as is customary by the time required to consume a certain weight.

Q. You refer to the screen. I assume that that is the same as the disc, isn't it, which is moved back and forth on the bar?

A. Yes.

Q. Which gives it the name of the disc photometer sometimes?

A. Yes, it is called the disc photometer. They use all
3880 sorts of screens on the bar photometer, however.

Q. Was not this a disc or corresponding discs on two sides of a triangular block?

A. Some of the tests were made with a disc screen and some of them were made with the star screen. They are essentially identical in operation. Some observers prefer the star shape to the disc and some prefer the disc to the star shape.

Q. Did you make any correction for temperature?

A. Temperature of the room?

Q. Yes, in your experiments?

A. I did not.

Q. You burned, of course, nothing for barometer?

A. No, nothing for barometer, nothing for state of moisture in the atmosphere.

Q. Was the room in which the photometer was located well ventilated?

A. It was a large room, a room about thirty feet spare and sixteen or eighteen feet high, and aired by ventilators, the ordinary ventilator, supposed to be ventilated. I am not prepared to testify as to the efficiency of our ventilating system up there.

Q. Was there sufficient movement of air so that it might have affected the tests, do you think?

A. I think not, no.

Q. Now, in Series VII, Exhibit FF, we observe that you put down a pressure of .14 of an inch. Will a flame under that pressure stand firm in the ordinary room?

A. No, it does not. It is a very flabby, wavy flame.

Q. How did it go in the room where you were making your tests?

A. It was of that character, a wavy, flabby flame.

Q. It is not one that would ever be commercially used or usable?

A. Not if they could get anything else probably.

Q. So that when you compute the value of that commer-
3881 cially on table 7, comparing it with the gas furnished under other pressure, that would be purely theoretical as far as the gas with a pressure of .14 of an inch was concerned, wouldn't it?

A. I don't know as I exactly catch the point. It is a positive fact if they burned it under that pressure they would get that efficiency.

Q. But nobody would ever burn it under that pressure?

A. Well, that is another question.

Q. You would not even get that efficiency in a living room with the current that prevailed, would you, at a pressure of .14 of an inch?

A. You would get the efficiency, you would get the candle power per cubic feet of gas used. People would not like the form of illumination though.

Q. There would be a call for higher pressure, wouldn't there, in that case, Professor?

A. There probably would be.

Q. Now, in the course of an examination of these tables I observe that in practically every instance, perhaps every instance, you give the greatest efficiency for the lower pressure, judged by the candle power for cubic feet per hour burned, or for five cubic feet per hour burned, don't you?

A. I do.

Q. You certainly do not mean to say that the gas burned in an open flame burner shows its greatest efficiency in practical use with a pressure under one inch, do you?

A. At the burner, yes.

Q. Well, I read in your affidavit, and you will correct me if I am wrong, after quoting Doctor Chanler—your affidavit in this case verified June 1st, 1906—you say:

"Doctor Chanler also with accuracy pointed out that gas at a pressure of less than one inch lost much of its illuminating efficiency."

How do you reconcile the two statements?

A. Professor Chandler pointed out with reference to the
3882 test I referred to in his case there, the circumstances as to the particular efficiency. The particular pressure at which you get the highest numerical efficiency depends upon several factors; it depends upon the quality of the gas and particularly the gas involved in that particular experiment which possibly President Humphreys specifically pointed out in his testimony. It is impossible to say any more than to state the case for the particular burner under consideration and the particular gas.

Q. Well, you still stand by this statement that Doctor Chanler pointed out with accuracy that the gas at a pressure of less than one inch lost much of its illuminating efficiency, do you not?

A. That was in that case; that was the case cited there to which I was referring, I am confident.

Q. But that was the case where an examination was made of gas and tests made at the various pressures, wasn't it, of gas of the Consolidated Gas Company?

A. I don't know.

Q. Don't you remember he testified to his experiments with gas of the Consolidated?

A. I remember that I took in the affidavit the results given by Doctor Chanler and pointed out certain conclusions from them.

Q. Then in the gas which Doctor Chanler did use it did appear and was pointed out by Doctor Chanler with accuracy that at a pressure of less than one inch that gas lost much of its illuminating efficiency?

A. That is perfectly true, because you lose if you go on down; any gas will lose in efficiency if you go down to the pressure where you practically get no illumination out of it at all.

Q. But, your best results appeared to be obtained, according to these tables, with the gas at a pressure under one inch and very substantially under one inch; in one case .14 of an inch, next case .58 of an inch, .4 of an inch, .3 of an inch, .2 of an inch, and
3883 so forth, and yet you have said that with the first of these, gas at .14 of an inch, the pressure would not be commercially useful. Do you mean to announce it as a general proposition that gas such as is now distributed in the City of New York according to your observation will actually show a better result under one inch pressure; or is that merely the result of these particular experiments and depending upon particular circumstances?

A. I think that measuring the pressure at the tip of the burner,

that all of the evidence goes to show that the actual candle-power per cubic foot of gas consumed is greater when burned in the proper burner under pressure less than one inch.

Q. But, take your first table, Exhibit FF. You mean to say that gas burned under .14 of an inch pressure was a situation to be advised, would you, for ordinary commercial use?

A. That would depend upon circumstances. These pressures are taken at the burner and it would depend upon the particular burner. The burner that you refer to in question is——

Q. Fishtail No. 5, check removed?

A. Check removed. And it is a burner that is absolutely not adapted to low pressures.

Q. No, exactly. Then you would not advise burning gas at .14 of an inch pressure through that particular burner?

A. Certainly not.

Q. Would you advise the burning of gas at .21 of an inch pressure through that burner for commercial use?

A. I cannot say exactly because I don't know what the pressure is in these burners between the check and the tip. This burner is a rather efficient burner when burned with the check in and what the pressure is between the check and the tip I haven't tested so that I don't know what would be the particular efficiency.

Q. When we come to the next pressure in this same table,
3884 Series VII, I find the third pressure .62 of an inch and that the candle-power for five cubic feet pressure is 10.2, but at .97 of an inch pressure, or 50 per cent. more, I find that the candle-power per five cubit feet burned has arisen to 10.3——

A. That burner is very erratic in its behavior, as the evidence shows; and that series was simply put in as an illustration of what happened when somebody gets out of patience with a check burner and pulls the check out.

Q. Now, in obtaining these pressures what process did you pursue in obtaining the exact pressure which you have employed here?

A. They were measured in most cases on the lower pressures, particularly on a delicate gauge which I think is sometimes referred to as an "arch manometer," from the fact that the divided circle is in the form of an arch over the mechanism. The variations in pressure there can be read very accurately as the total pressure of something like one and one-half inches of water is spread out over a distance of twelve or fifteen inches.

Q. Who assisted you in making the proper tests or did you take them yourself?

A. In most cases I took them myself. In other cases Mr. Edgerton assisted me.

Q. Did you verify all these readings yourself? A. I did.

Q. How did you proceed to get the pressure where you had drawn the gas off to a tank and employed the gas in the tank for your experiment?

A. To control the pressure?

Q. Yes.

A. It was measured in the same way.

Q. How did you control it in that case?

A. By loading the receiver or loading counterweights on it for the low pressures.

Q. Now, you observe taking the first Exhibit CC, Series 7,
3885 that the first four of your five pressures would be below the rate which the law compels the company to deliver.

Mr. PAGE: Objected to, as assuming something which the law does not provide. The law provides for a pressure in the mains and does not regulate it at the tip.

Mr. MATHEWSON: Very good. I think that is perhaps fair criticism of the question.

Q. What would be the difference in pressure between the main and the burner?

A. That would depend upon the distance of the burner from the main of pipes connecting the two, and the other consumers in the neighborhood of the burner drawing from the same feed pipes.

Mr. MATHEWSON: I am very glad the Senator made that objection because it disposes of the suggestion that the service pipes could be meant.

Mr. PAGE: Oh, no. If you do not know the difference between a service pipe and a house-pipe you had better study it up.

Mr. MATHEWSON: There isn't very much difference, not where they make these tests at Columbia College.

Q. Supposing you take the ordinary service running to the main in the street at the distance at which the services which you used are from the main?

A. How far from the main?

Q. Yes.

A. I suppose we were practically from fifty to seventy-five feet from the curb. I don't know whether the main is on our side of the street or the other side. That would make perhaps fifty feet difference.

Q. How long was your house-pipe from——

A. I beg your pardon. Perhaps I did not understand
3886 that. I thought you asked our distance from the main.

Q. So I did. And now I ask the length of the house-pipe which runs, I suppose, vertically, something like that up from the service, doesn't it?

A. We were just about on the level with the top of the meter, we were only a few feet above the top of the meter.

Q. What would you think under those conditions the difference would be between pressure in the main assuming it to be in the middle of the street, and the pressure at the burner?

A. Well, if there were only one burner running I should think it would be probably very small. It would depend upon the amount of consumption of gas from the same local pipe as the burner was drawing from.

Q. Take it in the evening as the conditions exist there. You say you made the first experiments in the evening. You know about what illumination is usually in force at that time. What would you

think would be the difference in pressure in the main and the pressure at the tip.

A. In our case?

Q. Yes.

A. It would be very slight because we use electricity for illumination entirely in the building and probably not more than one or two gas-burners running in the neighborhood and drawing from the same pipe.

Q. Do you think it would be one-half inch?

A. I should hardly think so.

Q. You never made any experiment to determine that?

A. No. I suppose the stiffness of the meter would come in to a certain extent. I don't know anything about that, either, what that amounts to.

Q. I see in many of these tables like FF you have placed opposite these various items "blows," ditto, ditto, ditto. What do you mean by blows?

A. I mean that the flame under those circumstances was slightly flickering and produced a noise such as is ordinarily referred
3887 to when you say that a flame blows, from the fact that the gas is being forced out of the slit at too rapid a rate.

Q. That is something a consumer could observe?

A. Yes.

Q. I see in State's Exhibit DD, first column, pressure .3 inch. We find opposite that "Flame wavy." What does that mean?

A. That means that the currents of air set up by the burner itself produced a wavy motion of the flame.

Q. That would not be commercially usable or desirable for use, would *be*?

A. I think not.

Q. You have referred to various kinds of burners yourself. Some of those you say are regulated for two inches pressure maybe——

A. The Welsbach burner can be regultaed for the particular conditions of pressure, but the ordinary burner has no means of regulation any more than is put on in manufacture.

Q. You can regulate it, can't you, by a check? Aren't there burners manufactured known as high pressure and low pressure burners which are not Welsbachs?

A. I don't know.

Q. If you are going to regulate a burner you may regulate it up as well as you may regulate it down?

A. I presume you could, yes.

Q. Now, I find that instead of one inch which you suggest is sufficient for stoves that Dr. Marks says in his affidavit, that it has been found necessary of late years to increase the gas pressure to about two and one-half inches, which pressure is required for the best operation of both incandescent mantle lights and stoves, and on the stand he repeated he was of that opinion still. Do I understand that you disagree with that proposition?

A. I do.

Q. As a result of these experiments?

A. Yes. I don't think additional pressure is necessary. I think

in both cases the stove and the incandescent mantle can be
3888 adjusted to give as high efficiency on lower pressures as they can on two and one-half inches.

Q. Do you know whether the burner which is used by Dr. Love, the City examiner, in his tests, No. 7 Bray is checked or not?

A. I don't know. I understand that it is.

Q. Do you know whether it has any layers of gauze or otherwise in addition to the checkings?

A. I do not.

Q. What sort of a stove did you use in your experiments regarding the efficiency of gas at different pressures in operation of the gas stove?

A. I did not intend to convey the idea I had made specific tests in those cases; the circumstances are in general extremely complicated. I said from my experience with gas burners, meters and stoves. That extends over twenty-five years as a physicist, using them for all sorts of purposes.

Q. Have you made any tests which you can produce here in reference to the pressure in a gas stove at which it will produce the greatest efficiency?

A. I cannot.

Q. You do know, as a matter of fact, do you not, that there is great complaint, large complaint that sufficient gas from time to time is not delivered to operate properly, gas stoves?

A. I have heard such complaints, yes, but I do not know to what it is due.

Q. In other words, that would be remedied, would it not, generally speaking, to some extent, at least, by greater pressure?

A. If the difficulty is due to little pressure it would certainly be remedied by an increase of it, yes. I do not mean to quibble on that answer at all.

Q. No, I understand. I think you are answering fairly. I am not criticising that. Did you allow for altitude in your estimate of pressure, in your test of the pressure? Make any corrections for altitude?

A. Altitude from where?

3889 Q. Above sea level?

A. Whether 150 feet above with a high barometer or 150 below with a low barometer would be the same thing.

Q. You did not make any correction for altitude?

A. No, I made none of those refinements. The things I was after were not hair splitting things.

Q. Not why the pressure was larger or smaller?

A. Not why the pressure was larger or smaller.

Q. Now, in your series 8, second table, State's Exhibit FF, was a check burner used?

A. Series 8, yes; and the pressures recorded in the first column in that case were behind the checks.

Q. Was that set for high or low pressure, do you know?

A. I don't know.

Q. You know that high pressure is set for 1 to 1½ behind the check and low pressure up to about one-half an inch?

A. I don't know. I bought an ordinary check burner.

Q. Of course with the growth of the use of gas as fuel, and of electricity as an illuminant you would recognize the right and propriety of the company to furnish gas of sufficient pressure efficiency to operate fuel appliances, whatever that be?

A. Yes.

Q. Now, in the Welsbach test, what sort of mantle did you use, the mantles of the Welsbach Company or merely mantles which you obtain in the market?

A. I bought the burners and mantles at an establishment on 125th Street that has "Welsbach" in large letters out in front of it, and I asked for Welsbach burners and Welsbach mantles and they had the Welsbach label on them and on the box and the warning against any substitutes for them, so I think they were really Welsbach burners and mantles.

Q. Was the same burner used in all of -our tests, that Welsbach?

A. Yes.

3890 Q. When you spoke of a pressure at the tip of the Bunsen burner which is used in ranges, just what did you mean?

A. In that I meant the pressure behind the opening where the gas comes out to mix with the air. In all or nearly all at least of the burners of that type the gas issues from a small opening and draws along the air with it and mixes with it and these mixed gases then finally burn on passing out of the openings of the burner. The pressure referred to is behind the point of opening where the gas comes out to mix with the air.

Q. Was the opening at which you made these tests the end of the horizontal or a vertical tube?

A. A vertical. The tests were made with the Junker Calorimeter, and in that instrument the jet is vertical.

Q. Now, referring to State's Exhibit EE, I observe that a Welsbach in that connection was regulated for 1.54 inches pressure, Series V, if I am correct?

A. Yes.

Q. But it obtained a better result at 2.35 inches pressure didn't it?

A. It obtained a slightly greater candle-power but a lower efficiency or candle per cubic foot of gas consumed.

Q. Then it obtained the highest candle-power, not at 1.54 inches at which it was regulated, but 2.35 inches so far as actual candle-power is concerned?

A. That is quite correct. It is very difficulty indeed to regulate the Welsbach burner, thoroughly satisfactorily, and as far as that is concerned, in the next series also with the Welsbach, if I remember all right, a higher efficiency was obtained at a pressure different from that at which I had regulated it.

Q. What is the explanation of that?

A. The explanation is I did not succeed in getting the proper regulation of gas and air for the burner and mantle which I was using.

3891 Q. Well, is your testimony here as to the pressure which is required for the proper operation of a Welsbach lamp at the highest efficiency based upon these experiments or is that based upon experience?

A. My testimony that within the ranges from an inch to two and one-half inches, and I thought approximately the Welsbach can be regulated to equal efficiency as based upon the experiments which I have made in this connection.

Q. Now, as a matter of fact, isn't it impossible to operate all appliances which an ordinary consumer has provided from his open-flame burners and Welsbach and gas stoves at a single pressure, if he desires the greatest efficiency for each class of apparatus?

A. I think not. I think if he uses the open-flame burner, adopted to the pressure of the gas he was furnished with, and his gas stoves and his Welsbach burners regulated to that pressure that he could run very satisfactorily on the same pressure.

Q. On the same pressure?

A. Yes.

Q. Well, if that is the case, why then, could not the pressure be limited at the meter by turning the cock there down to any point you desired?

A. It could be, provided there were no fluctuations in the pressure outside.

Q. Then, no matter at what point you set the pressure on the part of the consumer, or what point you conceive to be the best pressure for the consumer, there are bound to be fluctuations from that pressure, are there not?

A. Yes.

Q. And then to some extent the consumer must regulate the efficiency of his own apparatus?

A. Yes, if he wants the greatest efficiency, always.

Q. With what character or style of fuel appliances are you familiar as used throughout the City, I mean, for the use of gas?

A. I am particularly familiar with the gas ranges as they are furnished or recommended by the Consolidated Gas Com-
3892 pany. I have used one for a number of years in my apartment, and then, in the laboratory we have the ordinary burners and heaters of very great variety.

Q. Do you know of any stoves that are manufactured to operate at one-inch pressure?

A. I don't know as any stoves are manufactured particularly for that pressure.

Q. Well, is it not a fact that stoves are manufactured contemplating a certain pressure and to operate at the highest efficiency at about that pressure?

A. I don't know.

Q. Did I understand your testimony before the Stevens Committee to be in substance that the calorific value varies with the candle-power of gas directly and in the same proportion?

A. Not necessarily in the same proportion, but it is very likely to vary in the same way with the candle-power. It would depend probably, the exact ratio, upon how the increased candle-power was brought about.

Q. Now, you have stated that you assisted Mr. Edgerton in certain experiments as to pressure. What apparatus did you use in that connection, which you said in your testimony was proper apparatus?

A. We used what is known as the Richard Recording Manometer.

Q. Was that the same sort of an instrument that you used in taking these pressures which you have inscribed on the tables?

A. No. This apparatus which was intended for using in tests of this sort had no recording attachment whatsoever, and simply indicated the instantaneous pressure which had to be read off by the observer. In the Richard Monometer the pressure is recorded upon the paper upon a drum and the drum being driven by clockwork, the pressure at any particular hour may be read off with a fair degree of approximation.

3893 Q. Were these tests which were inscribed on these sheets as to the different pressures made consecutively one after the other?

A. Yes.

Q. Within a few minutes of each other?

A. Within half an hour or so, yes. They were run through as rapidly as the tests could be made.

Q. And did you change your pressure apparatus or otherwise adjust it so that it showed the pressure in each instance indicated before you took your candle-power?

A. Yes.

Q. Was it so adjusted so that it would maintain that pressure firmly?

A. If it were not so adjusted and if the pressure varied during the series of tests the pressure was read from time to time and an average pressure was taken.

Q. On what sort of a gauge or by what means did you know exactly what the pressure was at any moment?

A. That was with the arch manometer that I described a few moments ago, where the pointer magnifies the scale of pressure and the pressure can be read off at any instant.

Q. Is that an instrument which has been in use in your laboratory for some time?

A. Not that one, no.

Q. How long has that been in?

A. About a month now.

Q. Did you make any tests to verify it in advance?

A. I did.

Q. Now, what were these pressure experiments or tests which you made in connection with Mr. Edgerton, and what part did you take in them?

A. The tests consisted in maintaining for approximately a month the Richard Manometer in operation so that a continuous record of the pressure might be had, and my part in the operation consisted in looking at the manometer from time to time and changing the sheets every twenty-four hours.

3894 Q. The manometer, of course, is automatic in its action, assuming that the sheets were there?

A. Yes.

Q. And to what was it attached?

A. It was attached to the burner, to a gas hose attachment and a gas pipe in the same room in which these other tests were made.

Q. Do you mean that it was attached to the service pipe or was it attached where the tip was originally located, by the removal of the tip of the burner?

A. It was not attached to such a burner. It was attached to what is known as a hose attachment, which is a brass fixture having a stop-cock extension for the attachment of a rubber hose. They are often put in behind the burners in rooms where people wish to attach a stove or something of that sort.

Q. Of course the burner was kept closed or the pipe sealed?

A. There was no burner there.

Q. Did that connect with a service pipe upon which there were other burners drawing?

A. It did, part of the time, yes.

Q. How many other burners were drawing on that service pipe or could have drawn if lighted?

A. I don't know how may could have drawn. There were probably not more than four or five at the outset that there was any likelihood of being drawn, because the fixtures through the rest of that end of the building are never used for gas lighting as they have electric lighting altogether.

Q. How high above the level of the street would you say this way?

A. The room was about ten feet, I should think.

Q. Do you know what the elevation is at that point above the sea?

A. It is just about 150 feet. The elevation of the room in which we were working is within ten or fifteen feet of one hundred and fifty feet. I don't remember now whether it is the basement
3895 floor or the main floor of the building which is exactly one hundred and fifty feet.

Q. What was the size of the pipe which was attached to the manometer, the hose as you call it?

A. The rubber pipe?

Q. Yes.

A. It was what I think is ordinarily called three-eighths.

Q. Do you know what the size of the service pipe was?

Mr. KIRBY: You mean the hose-pipe?

The WITNESS: The pipe upon which this stopcock was placed?

Q. Yes.

A. That was a half-inch iron pipe.

Q. Is that the main house-pipe or does it join the main house-pipe?

A. It joins the main house-pipe.

Q. What is the size of the main house-pipe, if you happen to know?

A. I think it is a two-inch pipe.

Q. Were there any Bunsen burners in use on this house-pipe?

A. No.

Q. The four or five that you have mentioned as possibly used, were small open-flame?

A. Practically, yes, I think so.

Q. Do you know about what the length of the half-inch pipe was?

A. I should say that it was somewhere in the neighborhood of forty feet. I don't know exactly where it takes out of the main.

Q. Were these all the experiments that you had to do with Mr. Edgerton and the tests, that is, simply recording the pressure for the period that you have referred to?

A. Yes, that was practically all there was.

Q. What period did that cover?

A. That covered a period from about October first, I think, until the present time.

Q. It is still going?

A. Yes.

3896 Mr. MATHEWSON: That is all.

Redirect examination by Mr. KIRBY:

Q. You have been asked, Professor, in reference to the relationship between calorific power and candle-power, and you have stated that it was your opinion that one varied somewhat directly as the other. Is it not a fact that they do vary, one as the other, but that the calorific power lags behind any change in candle-power?

A. The increase in candle-power in general is necessarily brought about by the introduction into the flame of materials that are rich in carbon, and the addition of carbon to the gas in some form or other, and the additions of carbon would necessarily increase the calorific value as the carbon has a calorific value as well as the other gases, and on that account the addition of these materials to increase the candle-power, would increase the calorific value, and that would be approximately proportional, but I have no evidence myself as to whether it would be likely to vary one way or the other.

Q. Mr. Mathewson has asked you in reference to fluctuations of pressure and you have stated that in your opinion, such fluctuations are apt to occur.

Mr. MATHEWSON: Bound to occur.

Q. Or bound to occur. Is it or is it not your opinion that such fluctuations should be as little as possible and in no event beyond one and one-half inches?

A. It is.

Q. Your attention has been called to a statement giving the results of your experiments with the Welsbach burner, the same being State's Exhibit EE, and especially to the fact that with an increased pressure from 1.54 to 2.35 inches that the actual illuminating power of the flame increases. Does not this table and the results of

3897 your experiments also show that while the illuminating power increased, the efficiency of the flame, that is the candle-power per unit of gas burned, fell from 23.2 to 18.5?

A. It did.

Q. Your attention has been called to the growing use of gas ranges and other appliances to use gas as fuel, and the desire of consumers to have sufficient pressure to supply their demands in this direction. Is it not a fact that you have heard that most of the complaints come from faulty house-piping rather than from any other cause?

A. From my experience I should say that in very many cases at least, if not in the majority of cases, the difficulty is very largely due to improper house installation.

Q. Your attention has been called to an affidavit in which you made reference to the result of certain experiments made by Professor Chanler. Do or do you not know whether Professor Chanler used a Bray check burner in these experiments?

A. I don't know now.

Q. Do or do you not know where he took the pressure readings in his experiments?

A. I do not.

Q. The pressure which you have made reference to, are those taken at the tip of the burner with which you were experimenting, and do or do you not know whether it is customary in most of the photometers in use to take the pressure at this point?

A. I know that it is very common to lead the gas some considerable distance from the pressure gauge and meter to the burner, and I know from my own experience that a very considerable drop in pressure is often brought about by this piping between the pressure gauge and the burner itself.

Q. Do you consider that the proper and more scientific and most accurate way to measure pressure is at the tip rather than at any other point?

A. It seems to me that that is the only proper place to take
3898 the pressure, if you are going to determine relations between burning conditions and pressure.

Q. Your attention has been called to certain notes upon your experiments in reference to the flame being wavy and the like. In the course of your experiments did you observe the character of flame of check burners, and if so, was it of this wavy character?

A. And the flame of the check burner is a comparatively wavy flame, in practically all cases, inasmuch as the action of the check is to reduce the pressure so that the gas coming out of the burner under low pressure is not very steady.

Q. From this would you conclude that while a check burner would probably give a flame of higher candle-power efficiency, that such flame would be much more unsatisfactory for general use than the ordinary bat-wing burner?

A. I think most people would prefer a bat-wing burner with a steady solid flame to the ordinary check burner flame which is affected by drafts very easily.

Q. Have you in the course of your observations observed any instances in which check burners have been replaced by the bat-wing or fish-tail burners or where checks have been removed in such check burners?

A. The only case that I remember now is one case where I pulled the check out of the burner myself in the apartment, and I cared for more candle-power even at the sacrifice of efficiency.

Q. You have been asked if you made any corrections in your experiments for temperature or atmospheric conditions, atmospheric pressure and so forth, and you have answered that you did not. Do you think that the lack of such correction in any way affected the correctness or incorrectness of your statement?

A. I do not, for various reasons. The corrections referred to are

refinements in determination and can only be satisfactorily applied when investigations of the highest accuracy are carried out
3899 and for one thing I consider such experiments with the sperm candles as out of the question. The chief reason, however, for not making any corrections of that sort in these experiments, was the fact that the series of experiments was carried through in so short a period of time that the conditions of barometric pressures, room temperature, moisture of the atmosphere and carbonic gas in the room could be considered as practically constant during the series and it was essentially with relative effects that I was dealing and not with absolute candle power.

Q. And if such corrections had been made do you think it would to any great percentage have changed the results you obtained?

A. No, they would not have changed the general results appreciably.

Q. Do you know whether it is customary or do you consider it necessary to make such refined corrections?

A. Not in cases of this kind, not in work of this sort. The Act for example, in determining candle-power, makes no reference to any such correction as that.

Q. Your attention has been called to——

Mr. MATHEWSON: Either as to pressure or candle-power, does it, the Act makes no provision as to pressure or candle-power as to such refinements as that.

The WITNESS: No, it does not say anything about it.

Q. Your attention has been called to conditions as they may exist in St. Louis and as they may exist in the Borough of Manhattan in reference to stray currents and to possible electrolytic action occurring therefrom. Do you know anything about the conditions in St. Louis with reference to this matter?

A. I do not.

Q. Would you be able to make a comparison with condi-
3900 tions in St. Louis and the Borough of Manhattan with your present knowledge of the conditions as they exist?

A. No.

Q. Nor did you?

A. No.

Q. Your attention has been called to the various electric railways in the Borough of Manhattan and reference has been made to the method in use of returning their circuits. Are you familiar with the circuits of these various electric roads as to whether they are insulated or whether they are not, have you ever made any study of that question?

A. I have never made any study of it and am only familiar with it in a very general way.

Q. So that any conclusions or inferences which might be drawn from your answers to such questions would be other than any deductions made from a knowledge of the situation as it really exists?

A. Yes.

Q. You have been asked whether or not it is a fact that an electric

current will follow any path that is interposed which has any conductivity whatever, and you answered that such is indeed the case. Do you want it to be understood from that answer that any appreciable current would follow a path of high resistance if a path of low resistance were there for it to follow?

A. If the resistance were very high, in one case, and low in the other, of course, only a very small fraction would take the path of the higher resistance.

By Mr. MATHEWSON:

Q. But the fixed law would govern, I assume which you have defined, would it not, for currents?

A. Yes.

By Mr. KIRBY:

Q. As a matter of fact, the earth is of relatively very high
3901 resistance to that of a metal conductor, is it not?

A. Yes.

Q. And moist—water in itself is practically a non-conductor, isn't it?

A. Pure water is a non-conductor practically.

Q. And if earth were moistened so as to become mud, I presume that mud would be relatively of a very high resistance compared to a metal conductor, would it not?

A. Yes.

Q. Now, if we had a moist earth which we will call mud, does it necessarily follow that the passing of a current through that mud would set up an electrolytic action therein?

A. The passage of a current if the current actually goes through the mud, we will have no immediate evidence of the action of the current except at the places where the current enters and leaves the mud.

Q. And even there would we have electrolytic action if there were not the necessary solution of salts to permit a decomposition of the substance through which the electric current passed?

A. Well, if there were no salts there of that sort, you would have no action.

Q. You have stated that if there is electrolytic action the point where the harm, if any, will result, will be that where the current leaves the metal conductor, which in this instance, we take to be a gas pipe. Because a current is on a gas pipe, does it, to your mind, follow that the current will leave the gas pipe through the earth?

A. Well, of course, the current will have to get off somewhere, but it may go home to the works and go out through the holder and water tanks and connections of that sort. It may not leave the pipe, strictly speaking.

Q. And is it not more likely to follow the iron of the gas pipe until it reaches some other metal conductor than it would be to stray off into the earth and return in that way?

A. In general it would, yes.

3902 Recross-examination by Mr. MATHEWSON:

Q. Did you make any experiments with the Kern mantle burner?

A. No.

Q. Do you not know that the most efficient mantle burners use pressures above even two and one-half inches?

A. I have heard that there are some burners that use high pressures, but I do not of my own knowledge know anything of them.

Q. What was the size of the burner out of which you took the check in your own case?

A. I think it was a four-foot burner. I don't remember particularly.

Q. Four-foot Bray burner?

A. No, it was not a Bray burner.

Q. Was it a fish-tail?

A. I think it was a fish-tail, but it was something over a year ago and I only remember that the flame was a wavy smallish flame and I pulled out the check and got more candle-power, but I suppose paid more for it correspondingly.

Q. Don't you know that the gas company furnishes according to location and use desired, burners of two, three, four and five feet, adjusting them according to the requirements of the situation?

A. That may be. I did not know it.

Q. Is not the check in the burner intended to equalize the flow and make it uniform?

A. That is the intention of the check, yes.

Q. You said, I think, that where very little gas was used, as at Columbia College in the department which you were experimenting that you thought the difference between the pressure at the main and the pressure at the burner would be very slight. The difference would be very slight, is that correct?

A. I think so, yes. I don't know as I say anything about the loan in pressure in the meters. It was an unknown factor to me,
3903 but otherwise I should think there would be but slight difference in pressure.

Q. All the tables you have presented here except State's Exhibit EE, relate to the open-flame burners, don't they?

A. Yes.

Q. As a matter of fact taking these tables, it appears that five out of the six assumptions on State's Exhibit CC, Series 1, and three out of the six on State's Exhibit CC, Series 2, and three out of four on State's Exhibit DD, Series 3, and three out of four on State's Exhibit DD, Series 4, and four out of five on State's Exhibit FF, Series 7, and two out of five on State's Exhibit FF, Series 8, and three out of five on State's Exhibit GG deal with pressure below one inch?

A. Yes.

Q. And if there is practically no loss between service pipe and the main, they would be pressures below that at which the company under the present law is permitted to deliver gas, would they not?

A. I don't know as I catch the point quite.

Q. Assuming that there would be in these cases practically no difference in pressure between the main and the burner where you

made the experiments, that would mean that in all these cases you took pressures below that at which the company would be permitted to deliver the gas, is not that so?

Mr. PAGE: Objected to as an entirely improper because it is assuming that if there would be no difference in pressure there will be no difference, will there be any difference in the pressure?

Mr. MATHEWSON: No, that is not the point.

Mr. PAGE: That is your question.

The MASTER: I will allow it.

Mr. PAGE: Exception.

A. It would.

3904 Q. Is it not true in every one of these tables and series, the greatest efficiency, as you term it, of candle-power, of five cubic feet, per hour, is reached, or appears by these tables for a pressure substantially below one inch?

A. Pressure at the tip below one inch, yes.

Q. And I suppose if there were practically no difference between the pressure at the burner and the pressure at the mains, that would mean the same thing for the main?

A. Yes.

By Mr. KIRBY:

Q. These experiments, the results of which are set forth in State's Exhibits CC, DD, EE, FF, GG, HH and upon the chart accompanying the same, State's Exhibit II, the result set down in the first line under each series is that you deduce the standard at 22 candle-power from five cubic feet of gas burned per hour and upon which the standard of comparisons are based?

A. Yes.

Mr. MATHEWSON: They are in some cases and in some they are not. There are comparisons showing the actual amount of cost.

GEORGE F. SEVER, called as a witness in behalf of the defendants, being duly sworn, testified as follows:

Direct examination by Mr. KIRBY:

Q. Professor Sever, are you upon the faculty of Columbia University?

A. Yes, sir.

Q. And what chair do you hold there?

A. Professor of Electrical Engineering, Junior Professor of Electrical Engineering.

3905 Q. You are also Dean of the faculty of what?

A. Acting Dean of the faculty of Applied Science.

Q. Are you a graduate of any technical schools?

A. I entered the Electrical Engineering Course at the Massachusetts Institute of Technology and was there for four years.

Q. After that what did you do in the way of scientific work or occupation?

A. I spent six years in electrical engineering and electric railroad

work and designing with the Thompson-Houston and General Electric Companies, and became connected with Columbia University in 1893, as inspector in the Electrical Engineering Department. Since then I have been pursuing electrical engineering in its various branches, such as electric lighting, electric power, and electric railway.

Q. Do you belong to any scientific society?

A. The American Institute of Electrical Engineers and various other technical societies, and have been a vice-president and manager of the American Institute of Electrical Engineers.

Q. Do you hold any office under the government of the City of New York?

A. Yes.

Q. What is that?

A. Consulting Electrical Engineer to the Department of Water Supply Gas, and Electricity.

Q. How long have you held such an office?

A. Four years.

Q. What are your duties as such official, especially in reference to the streets in the Borough of Manhattan?

A. My duties are to report to the Commissioner at his request on any electrical engineering problem that is brought to his attention either by citizens or by the engineers of his department.

Q. In this connection have you made any special study of possible electrolytic action or corrosion of the water mains or other
3906 mains or conductors in the streets of the Borough of Manhattan?

A. To a slight extent.

Q. Have you in the course of your studies or duties as Professor in Columbia University or elsewhere made any special study of the problem having to do with possible electrolytic action and stray currents from power plants or electric railways or other sources?

A. Yes.

Q. Have you made an investigation into the conditions as they exist in the Borough of Manhattan in reference to such problems, the source of such trouble if it did arise?

A. Yes, I have.

Q. Are you familiar with the various electric roads in the Borough of Manhattan?

A. Yes.

Q. And the method with which these roads have been installed and the supplying of power to the moving parts thereof?

A. Yes, I am familiar with all that construction.

Q. Are you familiar with the report of the American Gas Light Association for the year 1906, being a special report of a committee appointed by such association and known as the Committee on Electrolysis?

A. Yes, I am.

Q. And was this report made and did such Committee which

made it consist of A. G. Glasgow as chairman, John Williamson, S. P. Curtis and Arthur H. Hall?

A. Yes, it was signed by those members of the committee.

Q. And was Professor Albert F. Ganz, M. E. of Stevens Institute, Consulting Engineer to the Committee?

A. Yes.

Q. And did you in the preparation of this report act in any capacity in relation to the work performed by Mr. Ganz?

A. Quite unofficially, in furnishing him access to all my collection of electrolysis literature, which he freely consulted.

Q. Do or do you not know whether the report of such Committee states——

3907 Mr. MATHEWSON: Wait a minute. Are you preparing to prove this witness's opinion or are you getting him to quote somebody else's opinion? Because I think the rule is well established that you cannot, on direct-examination of your own witness, present to him books and so on, and ask if he approves of them. That very same question arose before the Stevens Committee when I endeavored to pursue the same course with reference to Professor Chandler, and Senator Page will remember that Mr. Hughes promptly objected and stated that that question had been decided by the Court of Appeals in a case which he himself argued, and that he himself knew what the law was, consequently I was unable to pursue that course although it was stated that on cross-examination you might so examine a witness.

Mr. KIRBY: I withdraw the question.

Q. We have in the Borough of Manhattan how many different kinds of electric railroads?

A. We have four.

Q. What are they?

A. We have the system commonly known as the Metropolitan, which is a surface road; the elevated system, commonly known as the Manhattan; the subway system, and a short section of the Union Railway operating with a single overhead trolley.

Q. Of these which is the smallest?

A. The Union Railway.

Q. In regard to number of miles of tracks?

—. The Union Railway.

Q. Where does that operate?

A. It operates from 135th Street and 8th Avenue across town, running east, and crosses the Harlem river on the Madison Avenue bridge.

Q. Will you describe to us the method of construction of
3908 the street railway, that is, what you have called the Metropolitan?

A. The Metropolitan or surface system consists of a shallow conduit placed between the tracks in which the two conductor rails carrying current are placed, supported on insulators, held on the frame

work of the yokes of the system and the current is kept on those two conductor rails at all times without serious leakage.

Q. This is generally what is known as the double conductor conduit system, is it not?

A. Yes.

Q. And the return system is completely insulated, isn't it?

A. Yes.

Q. And from this system there would be no stray currents, would there?

A. No.

Q. Now, we have the subway. Will you briefly describe the system on the subway with reference to the electric conductors and method of furnishing the current to the moving trains?

A. The Subway consists, essentially, from its operating standpoint, of a regular railroad system supplied with its additional rail commonly known as the third rail, which acts as the positive conductor and carries the current from the various sub-stations of the subway to the moving units or trains. This third rail is carefully insulated by insulators from the ground and from all other surrounding objects. The current, after passing through the motors of the cars, is returned to the sub-stations by the service rails or running rails and additional copper feeders known as negative feeders which are connected with the negative bus-bars at the sub-stations, and the generators. The service rails are supported on wooden ties which in the subway proper are embedded in stone ballast, the stone ballast being placed directly on the concrete floor of the subway. One rail in each track is used for signal purposes and is not used or utilized for carrying the current back to the sub-stations.

3909 Q. This contact rail is bonded, is it not, the joints of the contact rail are?

A. Yes.

Q. What do you mean by "bonded?"

A. The two ends of the rails are connected together by copper bonds or conductors of sufficient capacity to carry the current.

Q. And if such rail joints are bonded with 300,000 cir. mils. copper bond you would consider they were amply bonded for the current which they carry, would you not?

A. Yes.

Q. And they are so bonded, are they not?

A. Yes.

Q. Do you now whether the negative busbars and return feeder cables are adequately insulated from the ground in the subway?

A. In my opinion they are. The practice which obtains there is to connect together all the lead sheaths or coverings on the negative cables or return feeders. In addition to all this, the lead sheaths of the positive feeders are connected together and the current is taken off of them, in case there is any leakage. In addition to both of these precautions the lead sheaths of all the high tension cables are connected together, and current taken off of those, if any leakage occurs, and in all these cases the endeavor is made, and has been made successfully in the case of the subway, to insulate the negative feed-

ers and also the other feeders, both positive and high tension, from the ground in order to prevent the passage of the return current or the leakage current from these lead sheaths to the ground and cause breakdowns.

Q. And what you have just said in this connection is also true of the elevated structure, is it not?

3910 A. Not at present to the same extent. They have already commenced to put the Manhattan Elevated return system and cables on the same basis as the subway, that is by insulating the return feeders and keeping the negative currents, as you might call them, on their own feeders, and cables and structure.

Q. Now the tracks in the subway are laid on stone ballast, which in itself is a non-conductor, is it not?

A. The tracks are laid directly on the wooden ties.

Q. Yes.

A. And they on a stone ballast, and that on the concrete floor of the subway so that——

Q. So it interposes between the current bearing rail and the ground a very high resistance?

A. A high resistance.

Q. A high resistance?

A. Compared with the potential which exists between the service rail, the running rail and the ground.

Mr. MATHEWSON: Are you referring to the subway or elevated?

Mr. KIRBY: I am referring to the subway. I have not got to the elevated yet, except about one question, which I asked him particularly.

Q. In your opinion with such a system as you have described as the one installed and in use in the subway, would or would not you think it highly improbable that currents would stray therefrom, that is, would follow other than the circuits intended for their return to the power station?

A. In my opinion the steps which have been taken and are now in use to prevent currents from straying from the return circuit are successful in preventing this difficulty.

Q. Now, we come to the third electric road, that is the elevated. Will you describe for us, the system which has been installed

3911 or is in operation in the elevated road in reference to the current and the method of supplying the power to its train?

A. In the Manhattan system the current is sent out from numerous substations directly to the third-rail without any additional feeder service and passes through the motors and returns through the following paths: the service rails, which are bonded at all their joints with No. 0000 bonds through the longitudinal girders of the structure; through return feeders of 1,500,000 cir. mils supplementing the other paths; and by the service rails, that is, all the service rails on the Manhattan are used as a return. So we have this arrangement — all the service rails, all the longitudinal girders and heavy copper return feeders, acting as a path to bring back the

currents to the negative bus of the substations; in all cases the negative bus is insulated from the ground and other electrical circuits.

Q. That is, the positive supply feeder is the contact rail, isn't it?

A. The contact rail, otherwise known as the third rail.

Q. That is the rail upon which the wheels do not run?

A. Yes.

Q. That is insulated?

A. Yes, that is carefully insulated on what are known as reconstructed granite insulators.

Q. Vitrified clay insulators, is that the same thing?

A. No, that is not the same.

Q. But all insulators of very high resistance and proper for the purpose, in your opinion?

A. Yes.

Q. And the return circuits being in part the rails, have their joints bonded, have they not?

A. Yes.

Q. And these bonds consist of what?

A. They consist of heavy copper of either No. 000 or No. 0000, depending upon the character of the traffic, and the service
3912 rails are also bonded to the longitudinal girders of the structure.

Q. Would this mean that the return circuit would be one of great conductivity?

A. Yes.

Q. Is it not a fact that the drop upon this circuit is very small by reason of such great conductivity?

A. The drop, of course, varies with the current employed. If you mean the——

Q. I do not mean when trains are passing over the road and using up current, but I mean the return circuit considered by itself?

A. It would have a very small drop for a comparatively small current, but of course the drop increases directly with the current used.

Q. Certainly, but the drop could be relatively small, would it not, by reason of the great conductivity of the return circuit?

A. Yes, except—relatively small as compared with a great many other things.

Q. Yes, relatively small compared with a system which would not have a bonded rail return or without that rail supplemented by longitudinal girders of an iron or steel structure?

A. Yes, that is so.

Q. And in your opinion, such a system consisting, as you have stated, of a bonded return, bonded rail return, supplemented by part of the structure itself, would be such as to prevent currents in any large or appreciable amount leaving the return placed there for that purpose and doing what is commonly called "straying" therefrom, would it not?

A. It is my opinion that with the construction that has been cited and with the additional construction now so successfully employed on the subway, that the difficulty, if any, from stray currents from the elevated will be practically or almost entirely done away with.

Q. Now, is it not a fact that any stray currents so-called
3913 means lost currents or lost energy or current put to no good use by the source from which they emanate, be it anything, and that therefore every effort should be made, and in your personal knowledge is being made, to prevent the same for this reason, if for no other reason?

A. As related to the Manhattan system?

Q. And any other system from which there might be such stray currents. In other words, do not stray currents mean a loss of energy, and therefore a loss of coal and therefore a loss of dollars and cents?

A. Every effort should be made by operating companies to keep the current on their own property, their own paths of conduction, to diminish their own loss and to prevent trouble with other systems, and other properties.

Q. From your knowledge of the various means and conductors in the street mains and conductors in the streets of the Borough of Manhattan, if it should happen that there should be a stray current or stray currents in the streets, what path do you think the current would take to return to that point where it would reach a plane of the same voltage as that from which it started?

A. It would take the paths or path of greatest conductivity.

Q. And in your opinion would that be a gas pipe or a water main or a lead sheathed cable or lead sheathed cables for telephone or telegraph or other customary purposes?

A. In my opinion it would naturally take the lead sheathed cable path as those paths are continuous and they are large as to carrying capacity and low in conductivity, whereas the gas pipes and water pipes and other subsurface structures have varying conductivities and therefore paths varying in resistance for such currents.

Q. You have spoken of the various electric roads in the city. Are there any other sources which supply electric current in any
3914 considerable amount that you are aware of?

A. Why, the telegraph companies supply simply a small amount of current. That is negligible in this proposition. The Edison Company supplies a large amount of current for the operation of their system, but they endeavor to keep their system free from grounds or connections with the earth except in the case of what is known as the neutral wire on their distribution circuits.

Q. You are familiar with the system which is used by the Edison Company in this borough, are you not?

A. Yes, I am.

Q. And you have spoken of the subway as being a three wire system, and of those three wires one being known as positive, one known as negative, and the third wire being known as neutral?

A. Yes.

Q. Do you know whether or not that neutral wire is what is known as a grounded wire?

A. It is grounded.

Q. What do you mean by a neutral wire and what do you mean by its being grounded?

A. It might be well if I should delineate the general system of the

Edison Company in order to lead up to the description of the neutral wire.

Q. Well, do so. It is rather important.

A. In the main power house of the Edison Company the electric current is generated, transmitted as an alternating current at high pressure to the substations, is then transformed to a low voltage and at the same time changed to a direct current and distributed on their systems for consumers, in a three wire system. That is, there is one positive wire, a neutral wire and a negative wire; the difference of potential between positive and negative wire is twice that between either the negative and positive wire and the neutral. The neutral is connected to the ground for two purposes, the first one being to prevent consumers from receiving electric shocks, which although not dangerous, might startle them, and the second one is to prac-
3915 tically neutralize the potential in the Edison system. In order that this latter idea may be accomplished, currents must pass from one neutral to another through these ground connections, in order to carry out the idea of equalizing the potentials.

Q. And these currents in passing from one neutral to another, pass through such conductors as may be found in the ground and would be stray currents, would they not?

A. Yes.

Q. And would set up such electrolytic or other action as any other stray current might set up?

A. Yes, it would. It might be large in amount, and it might be very small in amount, but would vary with the conditions of load on the system, and the difference of potential which exist between these grounded points.

Q. Do you think it would be possible to so use the system as to have the neutral wires always approximately of the same sort of potentiality so that there would be no current flowing from one to the other?

A. Not under the conditions and circumstances that I have noted.

Q. And those conditions and circumstances are those in use in the Borough of Manhattan, are they not?

A. Yes.

Q. So, then we have four important sources of electrical energy in the Borough of Manhattan, the Metropolitan Street Railway, the Subway, the Elevated and the Edison systems; am I right in that?

A. Yes.

Q. Any other source of electric energy as the same exists at the present time would by comparison to these four sources which I have mentioned be of slight importance, would it not?

A. Yes, they would.

Q. Now, if by reason of the systems now installed by the Metropolitan Street Railway, in the subway and in the elevated, and if such precautions as are being used upon such systems for the prevention of currents therefrom, and by reason of such methods
3916 as have been adopted for such prevention and which are to be used supplemental to those now in use in the ways in which you have indicated, if stray currents should appear in the streets of

New York, would you not consider it probable that the same emanated from the circuits of the Edison Company?

Mr. MATTHEWSON: I object to that question as being purely a conclusion and involving assumptions upon which conclusions are asked.

The MASTER: I will allow him to answer it. I suppose you propose to connect it later, Mr. Kirby.

Mr. KIRBY: I think it is connected.

Question allowed; exception.

A. The installations which the subway has made and the Manhattan Company is operating and is to make, in my opinion will prevent stray currents from passing from their property and structures, on to extraneous structures or subsurface conductors. Then there will be in the City a number of sources of stray currents, some large in magnitude and others small. The small ones I have cited; those of the telegraph companies. There is, in my opinion, the possibility of a considerable passage of current between these unbalanced neutrals of the New York Edison Company. There is also another source of current in Manhattan Borough which has not been cited and I think should be mentioned; that is, current passing across from Brooklyn on the Brooklyn Bridge and wandering to a slight extent around the lower end of Manhattan; also passing up the Bowery, both on the elevated and on the surface railway system to the Williamsburgh Bridge and going back to Brooklyn. That I should like to mention as a proper engineering report.

Q. But with all these elements and various sources of electric current before you, do you or do you not consider that the
3917 conditions as affecting stray currents with possible electrolytic action therefrom in the streets of the Borough of Manhattan are improving or becoming worse?

A. I think they are improving. I think that if any electrolytic corrosion is noted by any owners of sub-surface structures, including the City itself, it will be only in isolated cases which can be handled by proper precautionary measures locally applied.

Q. I note that you are reported in a report on the City of New York, Manhattan and The Bronx, issued by the National Board of Fire Underwriters Committee of Twenty, November, 1905, as follows:

"Professor G. F. Sever, consulting engineer of the Department of Water Supply, Gas and Electricity, has made a few tests in both boroughs, but the results were never collated. They showed, however, that pipes were only slightly positive to the ground.

The Interborough Rapid Transit Company has made tests on its system, but the results were not obtainable. Some leakage has occurred from the elevated structure, but it is not known to have caused damage. Other companies report no trouble from leakage or electrolysis."

Q. Is that your opinion of the situation as it exists to-day, insofar as set forth in that statement which I have read?

A. Yes.

Mr. KIRBY: There may be a few more questions I would like to ask. It is five o'clock and we may adjourn, I think.

Mr. BURR: Before we adjourn I want to call the Master's attention to City's Exhibit 55, which was ruled out. I refer to the extract from the Tribune, purporting to be a copy of an official communication from the Consolidated Gas Company furnished to all
3918 the papers of that date in question, which appears upon the record. I asked Mr. Garver at the time and I asked Mr. Mathewson to-day whether they would assent to that being an official record or statement of the company, and I understood Mr. Garver to say at the time that apart from his objection to its being immaterial and irrelevant, he was not then in a position to say that it was an authoritative statement. That did purport to be an official statement of the company, and I have asked Mr. Mathewson to-day, and I would like to know whether they are prepared to admit that as an official statement of the Consolidated Gas Company upon the record of this case.

Mr. MATHEWSON: Certainly not. I don't know anything about it and I have no knowledge that it was an official statement or was even a statement handed out by the Consolidated Gas Company. I say that in addition to the proposition that is is utterly immaterial and irrelevant and valueless, so far as this proposition is concerned.

Mr. BURR: That is your opinion. I think it is quite an important admission as against interest by the company and therefore if you will not admit it I propose to call all the officers of the company to ascertain by whose authority that was stated at the time or published in every newspaper in the City of New York.

Mr. MATHEWSON: Mr. Burr, I simply don't know anything about it. I never heard of it until you produced the so-called newspaper statement here.

At 5:05 P. M. adjourned until Monday, November 5, 1906, at 10:30 A. M.

Last Exhibits:
Complainant's 256.
City's 63.
State's II.

3919 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *November* 5, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Kirby, Mr. Burr.

3920 Mr. BURR: Before proceeding, I wish to state that I received a letter from Professor Bemis giving a list of the changes which he desires to make in his testimony growing out of typographical errors; in the testimony not including the recross-examination of October 30th.

The MASTER: Attend to that some time outside of the hearing, with counsel.

Mr. BURR: I submit this to the stenographer, and will have a copy made.

Mr. MATHEWSON: Before you submit it, I would like to go over it; before the corrections are made, because some of them we may not think are typographical errors.

Mr. BURR: I will have a copy of this made and present it to you. Now, we have arrived at a point in the investigation of the books where Dr. Marks and his assistants are desirous of checking off the sizes of the mains on the map of mains, the books of maps of mains, in the office of the Consolidated Gas Company. On Saturday they were all ready to proceed in that direction, and Mr. Carter and Mr. Simpson, I understand, refused to permit the examination to be made until they consulted with Mr. Mathewson, who was out of town, and they said they would communicate with him this morning. Dr. Marks was there this morning with his people for the purpose of making the examination, and I understand Mr. Carter and Mr. Simpson communicated with Mr. Mathewson, and the result is they have refused to permit the examination of these books of maps to be made. That is a very important matter to us for the purpose of completing the inventory of the property of the company, the item of mains alone representing some $12,000,000, as claimed by the company, and embracing some 822 miles of mains in the

3921 streets of the City of New York. Now, we simply desire from the books that are there, which are in their possession, in the office of the company, to check off the sizes and lengths of mains as testified to by Mr. Simpson in this proceeding, all with a view to verifying the amount of money invested in the business for

the year 1905, which is the period on which we are working, and to which Exhibit 94 relates, so that I ask that the company be instructed to permit the accountants and Dr. Marks to make this examination of the maps of mains for the purpose of checking off the lengths and sizes of those.

Mr. MATHEWSON: I think Mr. Burr has put it a little strongly when he says Mr. Mathewson refused this morning to permit the examination, or that Mr. Carter on instructions of Mr. Mathewson did.

Mr. BURR: I said that is what Dr. Marks stated, as he understood it.

Mr. MATHEWSON: The situation is this: The books of the company show the lengths of the mains and the sizes of the different mains, and those books have been checked off, or I understand can be checked off. What it is now desired to examine are not the books at all, but maps showing the main system of the company. In other words, ordinary insurance maps which are employed for that purpose, as I understand it. A map of that character, when you come to feet of mains, and on that small scale, is not anything that you can figure by at all. The accurate figures are in the books of the company, but this is merely a graphic and general illustration for our purposes of where the mains lay without intending to run to a foot, and I do not see that there is anything to be gained by going over those maps. If it was desired to check off the different sizes and lengths from those maps, I am informed by Mr. Carter it would be a work of months. The books of the company which
3922 show the lengths of mains have been checked, haven't they, Dr. Marks? The books, the records of the lengths and sizes of mains, you have?

Mr. MARKS: It is impossible to check them save either by going out and measuring the mains, or by the briefer method, which would occupy about one week of rapidly checking off the lengths and sizes of the mains as laid down from the maps.

Mr. MATHEWSON: Do not these lengths and sizes appear in the books of the company; not on the maps?

Mr. MARKS: Not in the books as yet furnished.

Mr. MATHEWSON: Have you asked for any such books?

Mr. MARKS: I have.

Mr. MATHEWSON: Has there been any objection to that?

Mr. BURR: We have repeatedly asked for the books and the maps from the beginning when we went up there to examine these mains for the period of 1905, and we understood there would be no objection to examining them.

Mr. MATHEWSON: A map is not a primary record.

The MASTER: Mr. Burr says the books are made up from the maps.

Mr. MATHEWSON: No, on the contrary, the maps are made up from the record? If we lay a mile of main, we buy the pipe and pay for it, we know how much we bought, and we know the streets it goes through, and we then put that down on the maps, so it is a secondary record, it is not a primary record at all; we do not put it

down and then measure on the map and see how far it is and then enter that into a book. That would be ridiculous.

The MASTER: Under the circumstances I shall have to ask Mr. Burr to furnish something a little more specific than this informal statement. You will have to give me some affidavit or state-
3923 ment of Dr. Marks showing exactly what book they have been afforded access to containing entries regarding mains and also specify the books to which they have been refused access, and then I will take such statement or affidavit as the Consolidated Gas Company submits for the purpose of determining which is the book of primary entry and decide the matter.

Mr. BURR: Of course a map is not a book of account, and a book of maps is not a book of accounts, and I cannot see, nor has Mr. Mathewson stated, any good or valid or substantial reasons for objecting to our inspecting the maps. Any effort we are making is a sincere one to ascertain what is the exact condition of affairs for 1905.

The MASTER: No, but on his statement of the facts, assuming them to be correct, I do not see but what every object you can attain can be accomplished better by checking off the entries in the books than by the maps. As I understand his proposition, these maps serve the same sort of purpose that a progress profile does on a construction contract. The estimates and measurements of the engineers would be the primary evidence as to the amount of work generally, but for the purposes of convenience and easy reference it is customary for engineers to plot out on a progress profile the statement showing the manner in which the work is progressing. Now, it may be quite accurate and it may be only approximately accurate. It is not the original record of what is being done. As I understand him, these maps are of the same character. Now, if that is so, I do not think there is any point in your having access to them. If it is not so, I think you ought to have access to them.

Mr. BURR: The books, of course, would not show the location and the maps would. When you consider the testimony in this case that there are 822 miles of mains—some testimony has been to the
3924 effect that there was 790, then again the testimony has been 822 miles—and that there are 422 streets open in the City of New York, in the Borough of Manhattan, we would like to know from these maps where these mains are located, as well as their sizes and lengths.

Mr. MATHEWSON: Oh, I see. That was not included in the original statement.

Mr. BURR: I say the books do not show the location of the mains.

Mr. MATHEWSON: I don't know whether they do or not.

Mr. BURR: If there is a duplication of the mains, we are entitled to know that.

Mr. MATHEWSON: I don't know that it is very material.

Mr. BURR: I am surprised there should be any objection made to the examination of the maps at all.

Mr. MATHEWSON: On the question of duplication, I think it appears by Mr. Simpson's testimony in streets, as distinguished from avenues, there is very little duplication in the streets. In the evi-

dence, as I stated to you, Broad, required services on both sides, and so forth. There are different lines of mains in many instances; properly so.

The MASTER: Is or is it not the fact that the books to which Dr. Marks and his associates have had access show the location of the mains?

Mr. MATHEWSON: I suppose so, but upon that point I am not specially informed. I will take it up.

The MASTER: Then we had better defer action on that until later, and you can do something about that during the day.

Mr. BURR: The time is getting short and Dr. Marks says we can get it all done in a week or ten days.

3925 The MASTER: My experience shows me where it is a matter or oral discussion it is so inconvenient and uncertain that for my own satisfaction I should like to have something down in black and white, showing a little more specifically what is desired, in case there is any objection to it.

Mr. MATHEWSON: I want to call the Master's attention and counsel- attention to another point in connection with this examination. I stated that counsel might examine the books or by their representatives they might examine the books of the constituent companies making up the Consolidated Gas Company. We find after very careful search that the books of some of the companies are not in our possession. I am informed by Mr. Carter that all the books of these companies never were in the possession of the Consolidated except at one time, if at all, that was at the time of the investigation in 1886, when Mr. Yalden had them, and he is not sure that the Consolidated Gas Company had them then. It seems that the Metropolitan Gas Light Company officials and some other officials of these constituent companies in the progress of the consolidation had the books, and in searching our vaults we are unable to find some of them. For instance, the Mutual Gas Light Company's books, ledgers, journals and cash books cannot be found in our vaults. We are looking for them, and we don't know where they are. We would have supposed that we had them, but we have not evidently. The Knickerbocker Company's books, ledgers, journals, and cash books are also not in our possession. As to the New York Gas Light Company, and the Manhattan Gas Light Company, there are quite a number of books missing, such as the ledger of the New York Gas Light Company from February 1st, 1845, to July 1st, 1857. The other ledgers we find. The Manhattan Company ledger from 1845 to 1848 we do not find. We find the ledgers beginning with 1849.

3926 The MASTER: I assume they do not want to go back any farther than that.

Mr. MATHEWSON: I don't know that they do, but I merely call their attention to the fact so they may determine in view of what they have introduced of Mr. Yalden's figures, which are made up by the examination of all these books, whether they think it is worth while to pursue fragmentary parts of the examination.

Mr. BURR: We wanted an opportunity to examine the Real Estate Account, that is all.

Mr. MATHEWSON: You cannot do it as to two of these companies unless we can succeed in finding the books. They are not in the vaults where all our books are kept, and Mr. Carter says he does not think the books of the Knickerbocker Company were ever in our possession, except as they were while Mr. Yalden was examining them. You can proceed with this fragmentary examination, but I call your attention to the fact, whether it is worth while in view of the facts that you have put in.

Mr. BURR: May we look at these books and also the books of the Consolidated Company showing real estate accounts?

Mr. MATHEWSON: You are looking at the books of the Consolidated Company containing the real estate account now, I think.

Mr. BURR: At all events it is clear in your mind that we are entitled——

Mr. MATHEWSON: You are looking at the books showing the accounts—I don't know about that, I don't know what you have examined there.

Mr. BURR: We are very anxious to look at the books of the Consolidated Gas Company containing the real estate account, also the books of the six original companies showing that account. If we cannot have all those books of the six constituent compa-
3927 nies we would like those which are in the possession of the Consolidated Company and the right to examine all the books of the Consolidated Gas Company containing the real estate account.

Mr. MATHEWSON: I do not think there is very much to that as far as the Consolidated Gas Company is concerned because the Consolidated Company has simply taken the appraised value of real estate in 1884 and the books show what it has added to, less what it has sold.

Mr. BURR: That should be a very simple matter.

The MASTER: Then that seems to be disposed of.

Mr. MATHEWSON: Supposing you tell your people to examine the real estate account so far as they can in the books of the constituent companies.

Mr. BURR: Very well. Have you a copy of that list?

Mr. MATHEWSON: Mr. Carter has.

GEORGE F. SEVER resumed.

Mr. KIRBY: I have no further questions of the witness.

Cross-examination by Mr. MATHEWSON:

Q. Professor, I suppose it is fair to assume that Ohm's law prevails in New York City as it does elsewhere and that the current of electricity if it comes in contact with two conductors will follow to a certain extent each conductor, is it not?

A. Yes.

Q. So that the mere fact that there is a conductor met by the current, which would be called an excellent conductor, and other

conductors which are not so good would not prevent the escape of stray currents on these less good conductors?

A. No.

3928 Q. So that it is simply a question of the amount or the intensity of the current which escapes, is it not, in considering the transportation system in the City of New York?

A. Yes.

Q. A certain amount of electricity passing over an insulated conductor through the air perhaps, especially damp air, will escape into the air, will it not, so that you do not get at the end of your line the same power with which you stated?

A. Not with the systems that we have in the city.

Q. Do you carry to the end of your line the entire power with which you start or do you lose a part of it in progress?

A. A certain amount of the power is expended in heating the conductors over which the power is transmitted so that the translating device which you desire to operate does not receive all the power which is sent out from the power station.

Q. Take the subway for instance; are the return rails there insulated?

A. They are not intentionally insulated as is the third-rail.

Q. And will not a certain amount of the electricity under the recognized law escape from the rails and follow the other conductors in contiguity?

A. Yes.

Q. Would it not depend to a certain extent as to whether the supports of the rails were damp or not, as to the amount of electricity that would escape?

A. Yes.

Q. And is there not generally speaking always a certain amount of moisture or dampness in a soil like that of New York, which is not a sandy soil?

A. Yes, that is so.

Q. Speaking of the elevated road, you spoke of the other paths of return which were supplemented by an arrangement which you mentioned. What were the other paths of return which you had in mind and which you said were thus supplemented?

3929 A. The paths of the return of the elevated are service rails, the longitudinal girders of the structure and return feeders, copper return feeders connected to the structure and service rails to carry the current back to the negative bus at the sub-stations.

Q. Are the horizontal girders bonded together in the elevated structure do you know?

A. The longitudinal girders?

Q. Yes, the longitudinal girders?

A. Yes.

Q. They are bonded?

A. Yes.

Q. How about the other girders, are they in any way bonded to the longitudinal girders?

A. The transverse girders are not.

Q. And I suppose the same situation would apply to the elevated as to the subway, that a certain amount of current according to the recognized law would escape to the street, would it not?

A. Yes, I think it does.

Q. Do you know whether all the Edison neutral wires are grounded?

A. No, I do not.

Q. You spoke of the bridge from Brooklyn or the two bridges as introducing certain currents or opportunities for stray currents. Then we have the bridges, the surface roads, the elevated, and the subway; and will not the subway which is being constructed under the river to Brooklyn furnish further opportunities for disturbance, electrical disturbance, in the way of electrolysis perhaps, at least stray currents?

A. I think a certain amount of stray currents can be derived from that installation.

Q. What about the Union Railway which operated lines in the northern part of Manhattan, 135th Street, which is an overhead trolley road; wouldn't stray currents be likely to appear from that to a certain extent?

A. They certainly do.

Q. Is that a character of construction which is best qualified to prevent the escape of currents to the earth?

A. No, it is not.

3930 Q. There is not any return system there, is there, of an efficient character which you have described as to the service railways generally, that is the underground trolleys?

A. You mean as comparable with the subway, Manhattan and Metropolitan?

Q. Yes.

A. The return on the Union Railway system is not as good on these other three.

Q. The current returns through the ground there, does it not, to the point of starting, generally in the best way it can find.

A. It returns through the tracks and negative feeders.

Q. Now you have omitted one electric system that is in process of installation, which is the New York Central and the New York, New Haven & Hartford electric transportation system through the tunnel, which electric system, I understand, is to extend to Woodlawn or above. What would be the effect of the immense amount of electricity which will be employed in moving the heavy trains of those two roads from 42d Street up through the city?

A. It will be to introduce into the city another electric railway, the return current for which is to be very heavy and against which there will have to be precaution taken to prevent that current from going into the ground. They have service rails, heavily bonded and return feeders of large carrying capacity to handle this problem.

Q. Do you know whether they intend to employ the same method as is employed in the existing subways?

A. As to what?

Q. As to the return of current.

A. They ought to use lead covered return feeders placed in tile ducts and insulated as far as possible so that the lead sheaths will not be damaged from earth currents or stray currents.

Q. You know that other subways are designed and that the
3931 Rapid Transit Board is considering letting contracts for other subways, don't you?

A. Yes.

Q. Well now, Professor, is it not a fact, that taking into consideration the operations of the trolley over the bridge, the new Williamsburg Bridge, and the current which may be observable in that connection and the new subway to Brooklyn which is not yet opened, and the contemplated subways and the New York Central and the New York, New Haven & Hartford electrical construction and the other electrical construction which is contemplated and which has very recently been put in, that the number and intensity of stray electric currents is likely to be increased as compared to what it was years ago?

A. There is no doubt about it, sir, unless there are very considerable precautions taken to keep this return current on the conductors of the railroad systems themselves, and if you will pardon me an interjection, I suggest we omit the New York, New Haven & Hartford system which is an alternating current system.

Q. Well, take the methods of return which are now employed, things as they stand; is it not true that the number and intensity of the electric currents which you would be likely to find now in the streets of New York would exceed by reason of these constructions, contemplated and at present, the currents a few years ago?

A. Yes, sir.

Q. And so far as they may have an effect by way of electrolysis, the danger would now be correspondingly greater would it not than it was a few years ago?

A. At the present time it is greater than it was some years ago.

Q. And other things being equal, the danger will tend to increase, will it not, with the duplication and addition of these various other electrical constructions which are planned to be put
3932 through the streets of New York?

A. I do not think so if proper precaution is taken by these railway companies to maintain their systems in proper and up-to-date engineering condition.

Q. But is it not true that whatever precautions they may take, that in accordance with the law to which I have referred certain portions of the current will get into the street and the entire current will not follow the best conductor back to its starting point?

A. I cannot answer that question by either yes or no because either answer would negative the question.

Q. Give us your view?

A. That it would follow the best conductor back to the station, whatever it might be, but I think with the precautions that are now being taken and should be taken by the railroad companies, that the currents in the ground, or stray currents, will not develop to excessive proportions or extremely dangerous proportions.

Q. You would not mean by that that there might not damage occur in local sections where the soil or the contiguity of pipes rendered that favorable, would you?

A. There may be eventually and always will be certain local troubles.

Q. And you would expect the damage from electrolysis to be greater in present conditions than it was before there was any electric transportation system in the City of New York, would you not, as things now exist?

A. Yes, with all the current that is being generated by all the systems.

Q. Now, Mr. Simpson testified that pittings were observed in the mains of the company at one or two points contiguous to the Brooklyn Bridge and in that section, and that pittings had not been observed until recently there. Would it be probable that those pittings arose from the currents which were due to the operation of the electric system over the bridge?

A. Yes, I should imagine so.

3933 Q. Well, Professor, you expressed some views, did you not, at the International Electrical Congress in St. Louis in 1904 on the subject of the effect of currents of electricity in the City of New York?

A. Yes.

Q. And I will read what you are quoted to have said there and see if this accurately expresses your view. Page 688 of this volume.

Mr. KIRBY: What volume?

Mr. MATHEWSON: Volume III, printed volume.

Mr. KIRBY: Reports of the proceedings?

Mr. MATHEWSON: Yes, International Electrical Congress, St. Louis, 1904, it is endorsed. I am merely reading this because the Professor states it so much better than I could by any question that I think it will be much clearer.

"Professor SEVER: The data which we have collected contains many references to underground conductors other than piping systems, so that I think it is perfectly proper that that phase of the situation should be brought before this meeting. About two years ago when I became connected with the city government of New York, Mr. Jones brought me a cable sheath which he claimed was destroyed by electrolysis. I know that on some cable sheaths in New York City, both in the telephone and power circuits there are large currents coming presumably from the operation of the electric railways. In The Bronx there has been considerable difficulty. In the Borough of Manhattan there has been difficulty which to some extent has been remedied by the co-operation of the officials of the railway company and the telephone companies. I know of one instance where the sheaths were bonded at one point by a heavy copper conductor, to a return of the Manhattan L—approxi-

3934 mately 1,500 amperes passed over that wire—sufficiently heated so one could not put his hand upon it—the Manhattan Elevated road uses its structure completely bonded, its service rails, and a large amount of return feeders, something like six or

seven million cir. mils., to get their current back without causing trouble to their own or other conductors. In spite of all their precautions there are still thousands of amperes coming back on the cable sheaths as well as those of other companies. It has been brought to the attention of city officials for their recommendations as there are at times a higher potential than twenty-five volts between the ends of the line and the nearest substation, which is the maximum fixed by the city rules."

I assume that that still expresses the situation, does it not?

A. That is in regard to the Manhattan.

Q. So far as you referred to it?

A. Yes.

Q. When you say "in spite of all the precautions of the Manhattan L there are still thousands of amperes coming back on their cable sheaths as well as those of other companies," do you, or do you not, by "other companies" refer to the other companies having structures in the streets?

A. That is companies whose cable lines parallel the Manhattan L, or companies whose cable lines are connected to those parallel lines.

Q. Might that refer to gas pipes in the street?

A. Any subsurface structures would carry current in proportion to their conductivity.

Q. Have you ever yourself made any surveys to find out the electrolytic condition in New York City, and particularly the Borough of Manhattan?

A. Not in the Borough of Manhattan.

3935 Q. What did you mean exactly when you said that they had already commenced to put the Manhattan Elevated return system on the same basis as the subway?

A. I meant that they are putting in return feeders and insulating the sheaths of these return feeders carefully from the structure and service rails and insulating the negative bus in the substations, in the endeavor to keep the current on those return conductors and away from the ground; that is providing a better path than would be provided through the ground back to the structure and the substation.

Q. In speaking of feeders, you do not mean that the elevated has any return copper feeders back to the power houses in the usual sense in which feeders are understood, do you?

A. Yes.

Q. Have they return feeders of copper?

A. Yes, they have.

Q. Do you know to what extent, and how these feeders are connected and operated?

A. They are connected to the service rails at or near the substations, and taken back to the negative bus at the substations.

Q. Connected you mean at a single point?

A. Yes, at the substations.

Q. Is it not a fact that there is only a general connection between the structure and each substation, bringing back the return, is not that the only return feeder in the case of the elevated?

A. They have additional return copper in some sections besides this connection directly at the substation.

Q. Have you ever examined the continuity of the bonding of the girders to determine whether that was defective on the Ninth Avenue L for instance, due to the pin construction of the girders?

A. I have not examined it specifically.

Q. The elevated structure itself is not insulated from the ground, is it?

A. There is no definite insulation of the verticals or the
3936 uprights from the ground. The uprights are set in concrete, on concrete foundations, which may or may not be insulators.

Q. It would depend somewhat, would it not, as to whether these bases were moist or dry?

A. Yes, sir.

Q. Well, do you know whether there have been any conferences between the elevated or the Edison Company and the city authorities as to conditions resulting from stray currents?

A. So far as the city is concerned officially, I know.

Q. You don't know that it has ever been officially brought to the attention of the Edison Company that their currents are the currents which may be doing damage, do you?

A. I don't know.

Q. Have you heard that there are differences of potential between the elevated railroad structure and the gas and water pipes and lead cables as great as 12 or 15 volts?

A. Yes, I do know that.

Q. Well, is not that a serious menace to those underground pipes?

A. It may or it may not be.

Q. Well, it might be, might it not?

A. It might be and it might not be. It is not a good thing to exist and from an engineering standpoint should be corrected.

Q. Well, don't you know that the currents are such that the telephone company has been obliged to connect or bond the lead sheaths of their cables to the elevated railroad sheaths and structures in order to protect their telephone cables?

A. Yes, that is so. They are doing it in a number of instances, their lead sheaths acting as part of the return conductor system for these railway currents.

Q. What would the necessity for such action indicate?

A. If they did not do that the current would leave their cable sheaths and eat up the lead and destroy their cables, and they make this bonding simply as a self-protective device and endeavor
3937 to keep their lead cable sheaths insulated throughout the ducts so the current will leave only at these predetermined points of connection.

Q. And of course it must mean that there is some leakage of current, else they would not be obliged to do this to protect themselves?

A. That is very true.

Q. I suppose the gas pipes would be acted upon just as these sheaths of the telephone company, would they not, in the same location?

A. In a similar manner, providing the current went on through them in the same degree and left them in the same degree.

Q. Well, do you know what the copper capacity of the return circuit of the New York Edison Company is?

A. Of the return circuit in the New York Edison Company?

Q. Yes.

A. No, sir. I do not.

Q. Do you happen to know what current is carried by this neutral?

A. No, I do not.

Q. If the current carried back over this neutral is a minimum, and it is of large copper section, would not the drop on the neutral be exceedingly small?

A. I don't think I quite understand the question, sir.

Q. Well, if the current carried back over this neutral is small, and the neutral is of large copper section, would not the drop on the neutral be exceedingly small?

A. Yes, it would.

Q. Would you be surprised if you found it was only a mere fraction of one volt?

A. Why, no, I should not. I should think that was a wise precaution.

Q. Well, under such conditions and if there was only a mere fraction of a volt, and there being an almost perfect return path of high conductivity, would the tendency of currents to stray off be a minimum also?

A. Yes, the tendency would be a minimum.

3938 Q. Well, what is the basis of your suggestion, then, Professor, or perhaps your conjecture, that the Edison system is contributing to the electrolytic situation in the City of New York?

A. Only that if there is a considerable difference of potential between these larger separated neutrals, there would be currents flowing to equalize the potentials.

Q. Yes, if that be true, but if the conditions are such as I have indicated in my last question as to the minimum, then the contribution of the Edison Company to electrolysis would be very slight, would it not?

A. It undoubtedly would.

Redirect examination by Mr. KIRBY:

Q. Mr. Mathewson has spoken of the installation now being put upon the lines of the New York Central and the New York, New Haven and Hartford Road, and you have stated that you are familiar with the installation which is being placed on such roads. In your opinion is there any great danger of stray currents from the power which would be furnished over this installation?

A. That is on the New York Central installation?

Q. The New York Central installation and the New York, New Haven and Hartford, both of which have been referred to?

A. I do not consider that in the case of the New York, New Haven and Hartford there is sufficient proof or evidence that there will be any trouble from the alternating current system. The plans developed for the handling of the return current on the New York

Central as at first made I feel are not sufficient to handle the return current, but this is now being modified so as to increase the capacity for taking care of this negative current and the endeavor being made to keep the stray currents out of the sub-surface conductors and off of the cable sheaths.

3939 Q. Ohm's law has been referred to and you have stated that no matter what the conductivity of the material might be so that it is a conductor, a certain proportion of the current will use that as a means of flowing from one point to another. This is true of a current of any intensity, is it not?

A. Yes.

Q. Whether the voltage be high or low?

A. Yes.

Q. And is it not a fact that the harm comes from the amount or intensity of the current rather than from the fact that a current of small or inappreciable amount happens to be on that conductor?

A. Will you read that question, please?

(Question read.)

The WITNESS: I am afraid I cannot answer that question. That is, the harm develops from the stray currents leaving these sub-surface conductors at some point, and the destruction would be directly as the quantity or intensity of the current.

Q. And if that current was of such a low intensity, as to be of a fraction of a volt or the amount flowing was of such a small amount as to be but a fraction of an ampere, the chances of harm would be very small, would they not?

A. Yes.

Q. So that because a delicate instrument would indicate a current, it does not follow that harm will result from that current?

A. Not if it remains in the sub-surface conductors themselves.

Q. And in electrolytic action we must have a voltage sufficient to set up such action in the electrolyte, whatever that might be, is not that so?

A. Yes.

Q. And that in most instances would mean a voltage of certainly more than one volt, would it not?

A. It has been found that it takes about two volts to electrolyze, that is dissassociate water, but so-called electrolytic action
3940 and subsequent chemical action may occur through smaller voltages.

Q. Would you say with a voltage of less than one volt?

A. In some soils where there is a great deal of salt, and saline matter, the electrolytic action might occur with one volt.

Q. Is it general that such is the case or is that an exception?

A. It is rather the exception and only in those places where the soil has a very low resistance due to these salts.

Q. Attention has been called to the subway return rails and the question has been asked you whether or not they were insulated. While they may not have been intentionally insulated, as a matter of fact, are they not practically insulated from the ground?

A. They are practically insulated from the ground for the voltages

which exist between them and the ground. They are placed on wooden ties which are placed on the stone ballast, the latter being placed on the concrete bed of the subway, and the voltage existing between the service rails and the ground is comparatively small, so that this location of the rail is such as to afford a good insulation.

Q. The Union Railway, both in its length of line and in the amount of electricity generated as compared with the other electric roads in the city, has a very small amount of importance, has it not?

A. In the Borough of Manhattan, yes.

Q. Yes, that is what I had reference to?

A. Yes.

Q. An extract has been read from your report to the International Electrical Congress and your statement there in reference to the return of the current mainly had to do with the continuous lead sheaths of such cables for telephones, telegraph, or lighting or power purposes which were in the ground, had it not?

A. Yes.

3941 Q. And it is your testimony that if there be stray currents in the ground, such currents would follow such continuous paths, rather than water pipes and gas mains, which afforded it a more broken path, and a path of higher resistance?

Mr. MATHEWSON: Is not that all covered by the Ohm's law, that they follow the conductors in proportion to their resistance?

Mr. KIRBY: I think my question is plain.

A. Yes.

Q. It has been stated that trouble has been found upon the cables of the Telephone Company and that from such cables conductors have been led for the purpose of carrying off that current and caring for it in a way which would prevent the destruction of such cables; also that the Edison Company by the use of a neutral wire of great size, and therefore large conductivity, would lessen the risk of any difference of potential between the neutral wires. Does this in any way confirm your opinion that the subject of stray currents and electrolytic action therefrom is better understood than formerly, and therefore the danger therefrom is less than formerly?

A. No, I do not think the danger is any less than formerly.

Q. Or is no greater than formerly? I am speaking of the future, Professor.

A. I think with the precautions that are being taken that the danger will be decreased and not increased, and those precautions are being taken and will have to be taken.

Recross-examination by Mr. MATHEWSON:

Q. You have said that the danger from electric currents or the danger from electrolysis was greater in soil containing saline matter than in other soil. Would not that danger be particularly

3942 present in the lower portions of the City of New York which have been filled in around the water front, and like Canal Street, which was formerly on the level with the river, and sections of that kind?

A. In places of that character the danger is greater, the opportunity for stray currents to produce results is greater.

Q. And where old buildings have been taken down and the mortar more or less mixes with the soil in connection with rebuilding, does not that give a reaction which is favorable to electrolysis?

A. Not so great as the saline locations, as the presence of lime is not so dangerous as salt.

Q. When you said that a current of electricity would follow the line of least resistance, that you do not intend to put in conflict with the Ohm's law, do you, that it will follow conductors, whatever they are, in proportion to resistance, universally?

A. It is exactly the same thing, sir.

Q. So that if there were two conductors in contact with a current of electricity, to put it in that way, the electricity would not all go to the best conductor, would it, or the current?

A. No, not at all, it would divide in proportion to their conductivities.

Q. Now, if it be true that heavy lead cable sheaths have been fused or heated to very high temperature, would not that indicate that thousands of amperes were being carried over the cable sheaths?

A. Yes, but not necessarily due to the stray currents.

Q. No, perhaps not.

A. It may be due to a number of reasons.

Q. That would indicate a large current of considerable intensity?

A. Unquestionably.

Q. And that, whatever its cause, would indicate a dangerous or serious condition, would it not?

A. It would indicate two serious conditions, one that there may be stray currents there and one that those cable sheaths may
3943 have been burned off owing to some other fault on the line.

Mr. MATHEWSON: That is all.

HENRY H. EDGERTON, called as a witness in behalf of the defendant, the State of New York, being duly sworn, testified as follows:

Mr. KIRBY: Mr. Master, I produce Mr. Edgerton here as a witness who will give testimony in reference to certain readings that he has taken in regard to the pressure of the gas in the service mains, also with reference to certain deductions which he as a gas engineer will make therefrom. It is our desire that Mr. Edgerton should give testimony upon other matters having to do with this case, that is in regard to the value of plant and the cost of making and distributing gas. But upon these two latter subject- we are not at this time prepared to produce his testimony, and I therefore ask that he be permitted to testify upon the first matter of pressure and that then we may be permitted to put on other witnesses before his testimony in regard to the value of plants; and this for the reason that as yet our engineers have not completed their examination of the inventory of the plants, and placed their values thereon. If there is any objection to proceeding in this way, I am afraid we cannot proceed with Mr. Edgerton.

Mr. MATHEWSON: Have you any other witness?

Mr. KIRBY: I have not.

Mr. MATHEWSON: I don't know that I have any objection, provided you wind up with Mr. Edgerton on the subject of pres-
3944 sure and have that disposed of.

Mr. KIRBY: That is my purpose in bringing him here today. It was my feeling that if we could take this subject up by itself and end it as far as Mr. Edgerton is concerned now, it would save time. But I will qualify Mr. Edgerton as far as possible along all lines.

Direct examination by Mr. KIRBY:

Q. Have you ever designed or built gas works?

A. Yes, sir.

Q. Where have you built such works and about when?

A. I built works in part in Fort Wayne, Ind., in 1868, 1869 and 1870, additions; built works on the west side of Chicago in 1871; Sunbury, Pa.; Middletown, Ohio, in 1871; Logansport, Ind., 1872; New Orleans, additions in 1872, 1873 and 1874; Mobile, Ala., 1874, 1875, 1876, additions; Shamokin, Pa., and Plymouth, Tamaqua, Montenoy City, Shenandoah——

Mr. MATHEWSON: Can you give the dates of these?

The WITNESS: Those were all in around about 1871, 1872 and 1873. I built those in partnership with Mr. Patton. I was not present at all the building of the works, but in part. I was consulted in regard to the building of the Mutual Gas Works in New York, or the changing it to an oil gas plant in 1872. Also Detroit, Mich., in 1872; addition to Memphis, Tenn.

Q. When was that?

A. Memphis, Tenn., in 1871 and 1872. That was the first works I had anything to do with in oil gas. It was then called naphtha gas. There are others I don't remember.

3945 Q. You have built works since that time, haven't you?

A. Oh, yes.

Q. Do you remember a few of the more important?

A. In 1882 I became connected with the U. G. Improvement Company as engineer and chemist; reconstructed the New Orleans Company—New Orleans Gas Works to water gas in 1882, 1883, 1884; Stamford, Connecticut, 1882; Danbury, Connecticut, 1879 and 1880; Wallingford, 1883; Pensacola, 1883; Waco, Texas, away back in 1874; Logansport, Indiana—I don't know whether I mentioned that——

Mr. MATHEWSON: Yes, you did.

Q. Any more recently than 1884?

A. Yes; in part; there was no construction of works by me entirely, I don't remember any, since 1884.

Q. Well, what works, if any, since that time were you associated with others in the construction of?

A. I was consulted in the construction of a number of works:

Omaha, Savannah, Reading, Pennsylvania, for the Reading Railroad Company, and also for the Reading Company. I don't remember much down here. In New Jersey, that is, Paterson. In Waterbury I did a little.

Q. Waterbury, Conn.?

A. Yes. That was in the case of the United Gas & Improvement Company's construction.

Q. In your work of designing or constructing these plants, did it in most instances include designs and construction of the distributing system as well?

A. In most cases.

Q. Have you ever operated any gas plants?

A. I have directly, officially, and also as consulting engineer in regard to them.

Q. What works have you operated officially?

A. I operated the Fort Wayne works from 1866 to 1871.

Q. What position did you occupy in those works?

3946 A. Secretary, superintendent and treasurer; I did everything there was about it.

Q. And thereafter did you directly operate any other works?

A. Not as an official. I assisted in operation by my advice in quite a number of works.

Q. What works did you as an advisory engineer or in an advisory capacity help to operate?

A. Mobile, Alabama; New Orleans, Chicago (West Side), and you might say the Mutual in New York City on several occasions; Detroit; Memphis. I now think I omitted to mention a number of works I built up in Minnesota—Faribault, Stillwater, and Red Wing. I again took charge of Faribault in 1901. I also omitted Asheville, North Carolina, and some connection with the Schenectady works also for the General Electric Company; that was in 1904.

By Mr. MATHEWSON:

Q. I do not understand what that relates to, whether operation of plant or construction, as to Faribault, Schenectady, Asheville?

A. Both, construction and operation. I may state from 1900 to 1905, I was consulted entirely by the General Electric Company for their works, various gas works.

By Mr. KIRBY:

Q. Are you operating any gas works at the present time?

A. No. I am operating at Danbury. I am consulted in everything that is done there.

Q. Have you any official relationship with the company there?

A. No, sir.

Q. Simply acting in an advisory capacity to the company?

A. Yes.

Q. Have you ever made any special study of water gas, of oil gas and of oil as an enricher of gas?

A. I omitted to state in that where I acted in advising that I

have also advised in connection with municipal works in re-
3947 gard to the several processes they use or used at one time in the operation of their works.

By Mr. MATHEWSON:

Q. Municipal of New York?
A. Municipal of New York, yes. I omitted that.

By Mr. KIRBY:

Q. Now, in the main having completed the plants you were associated with in one way or another, will you answer the question that I just asked. The Stenographer will read it.

The STENOGRAPHER (Reading): "Have you ever made any special study of water gas, of oil gas and of oil as an enricher of gas?"

A. I have.
Q. Have you ever made any special study of the relationship between oil when used as in enricher and the candle-power resulting therefrom of gas oil and the kind and character of such oil as applied to the enriching of illuminating gas, both coal and water?
A. Yes.
Q. When did you commence to make such studies and what work did you do therein and thereafter?
A. When I was studying the use of petroleum products for use in gas making in 1870, using naphtha in the first instance, and as fast as any other product was obtainable, either cheaper or better for the purpose, I made a study of that also.
Q. Were you ever retained by engineers for the purpose of delivering lectures upon this subject or endeavoring to have water gas introduced into more general use, and if so, by whom and when?
A. I was engineer of the Gaslight Company of America for the period of 1874, 1875, and 1876, in the use of petroleum prod-
3948 ucts for making gas, and being then new I was all over the country, interviewing gas managers on the subject and explaining the construction and operation of works; there was then a number of works in operation. I also appeared before the Board of Aldermen endeavoring to obtain franchises for the introduction of gas.
Q. What was the Gaslight Company of America?
A. That was a company organized by the constructor of the Mutual gas plant and Mr. Thompson Dean for the purpose of further utilizing petroleum products for gas making.
Q. Who was the constructor of the Mutual?
A. Hoyt Kennedy & Company.
Q. You were retained by Mr. Kennedy for this work?
A. Yes. Mr. Kennedy was president of the Mutual Company.
Q. Did you have anything to do with the preparation of plans for the introduction of water gas in the Mutual Company's works?
A. I examined all their plans. The works were originally built for coal gas and it became a question of the best method of changing them to the use of naphtha and I came on here to New York and

spent several months in consultation on that subject with Mr. Kennedy.

Q. Did you have anything to do with the installation of the water gas part of that plant?

A. That was not really a water gas plant as first started. It was what we called a naphtha gas plant.

By Mr. MATHEWSON:

A. At the Mutual?

A. Yes, naphtha and coal gas mixed. I think Mr. Kennedy depended entirely on my previous experience and judgment in regard to starting that thing up.

3949 By Mr. KIRBY:

Q. You did not actually instal any of the apparatus yourself?

A. No, I was not contractor; simply consulted in regard to it.

Q. Have you ever examined gas works?

A. I may say that I induced Mr. Kennedy in the first place—my report induced Mr. Kennedy to put in a change from coal gas to naphtha gas.

Q. Did he so state to you?

A. Yes, sir.

Mr. MATHEWSON: I don't think that is very material. The Mutual is not one of the consolidated companies, anyway.

Mr. KIRBY: It is simply a question of qualifications.

Q. Have you ever made any examination of gas plants elsewhere than in the United States?

A. Yes; in Europe, in 1860, '61, '62 and '63 I examined quite a number of plants. In fact I went to Europe for the purpose of looking into the gas business and also went into chemical subjects.

Q. Well, in England what works did you examine?

A. I went first to Liverpool and became acquainted with Mr. King. Mr. King gave me letters to various parties and I went to London and spent a little time there, endeavoring to find out in what particulars we were behind in this country in regard to operation of gas works, and I had been previously employed for two years in the operation of works in this country before I went to Europe, that is why I became interested in the subject in the first place.

Q. Since that time have you made any examination of plants elsewhere than in the United States?

A. No, I have not seen any.

Q. Have you kept familiar with the reports of foreign countries and their method of operation?

3950 A. I have taken the journals devoted to the gas business and looked over those, both French and English, sometimes in German, and I have kept generally posted in regard to their movements and secured plans from time to time of their improvements.

Q. Have you read and are you familiar with the English statutes in regard to gas companies?

A. Reasonably so, yes, sir.

Q. And of the analysis of their accounts, such as set down in Field's Analysis or other analyses?

A. Yes, I have made a special study of gas accounts, in fact took the accounts of a number of works.

Q. What do you mean by "took" the accounts of a number of works?

A. Well, I got adopted the Fort Wayne system of accounting, which was considered a very good model, in Mobile, and partly in New Orleans, and in most all the works I constructed afterwards and had anything to do with operating, unified the accounts somewhat to that system.

Q. Have you ever pursued studies at any scientific school while abroad?

A. I wasn't there long enough to take a course in any school but from the American Legation I secured admission to lectures at *l'Ecole des Mines, l'Ecole Central, l'Ecole des Ponts et Chausses.*

Q. All of them are located in Paris?

A. Yes, very near together.

Q. What sort of studies did you pursue at these schools?

A. I merely attended lectures from time to time and became acquainted with Professor De Ville and a number of other scientific men and according to their advice I went from town to town as a matter of interest turned up.

Q. Did you make any special scientific investigations under Professor De Ville?

A. I was at Vesuvius when he studied the gases there, at the volcanic eruption of 1861, I think it was 1861 or 1862. It was
3951 a study of gases, which run into one another; it is all along the same line.

Q. And you are familiar with the chemical and physical constitents of gas?

A. Yes, and the analysis of gas, and devised apparatus and made it a life study.

Q. Are you familiar with scientific apparatus such as used for photometry and the measure of pressures in gases?

A. Yes, sir.

Q. Have you made frequent use of such apparatus?

A. I used it in its best forms for probably forty years.

Q. Are you familiar with the different kind of gas burners used by Professor Hallock in the experiments about which he has testified in this action?

A. Yes.

Q. Have you made experiments from time to time to ascertain the pressure at the burner tip which would give the highest illuminating efficiency of the flame?

A. Yes.

Q. Have you made experiments from time to time to ascertain the pressure required at the point of issue of gas and gas burning apparatus for heating, cooking, etc.?

A. Yes, sir, I have.

Q. You have seen the results of Professor Hallock and heard his

testimony thereon. Do the results which he has obtained coincide in the main with the results of your experiments and investigations?

Mr. MATHEWSON: Objected to, as too general. I think he should ask a specific question, so that I can cross-examine him. I do not think there is any such practice as that of asking if you heard a witness testify and if you agree with his general conclusions.

The MASTER: Not if there is objection to it, Mr. Kirby.

Mr. KIRBY: Well, we will come to it later.

3952 Q. Have you read and are you familiar with Section 2 of Chapter 125 of the Laws of 1906, being an act in relation to illuminating gas in the City of New York, etc.?

A. I don't remember it by sections.

Q. Expressly that part thereof reading:

"The pressure of illuminating gas in any service mains in said city at any distance from the place of manufacture shall not be less than one inch nor more than two and one-half inches."

A. Yes, I read that. I did not remember the section.

Q. What is your interpretation of the words "service mains" as set down in such statute?

Objected to; the witness's interpretation of a statute.

Q. What to your mind as a- engineer and one who has had to do with the operation, management, designing and building of gas works do the words "service mains" mean?

Mr. MATHEWSON: Same objection. I think the witness can state what kind of mains he tackled in his experiments but I do not think he can testify as to what the statute means.

Mr. KIRBY: I think he is competent to do that. I think it is a relevant and material question.

Mr. MATHEWSON: Objected to on the ground it is his construction of the statute and not competent.

The MASTER: He cannot construe a statute but it is proper for Mr. Kirby to ask him as an expert in the gas business what
3953 the term "service mains" means. If it has any meaning in the gas business show it by him.

Mr. KIRBY: I will so ask him.

The WITNESS: Well, it is a new term that I thought rather an apt term, I propose to adopt it hereafter for I take it to mean the mains——

Mr. MATHEWSON: I object to what you take it to mean. That is not the question. The question is what in the gas business "service main" means, in your experience.

By Mr. KIRBY:

Q. What do you understand that term to mean?

Mr. MATHEWSON: No, I object to what he understands that term to mean if he refers to the statute. The witness is limited to the question which the Master ruled was proper.

Mr. KIRBY: Let the witness go on and complete his answer. He said, "I take it to mean——" Now, what do you take it to mean?

Mr. MATHEWSON: Do you mean what does he take that term to mean, as used in the statute?

Mr. KIRBY: I mean what does he take that term to mean in reply to the question which was put to him?

The MASTER: He was asked to testify what it means in the gas business. If he says it is a new term and then you ask him what he takes it to mean, it virtually amounts to the same thing as your former question, does it not?

Mr. KIRBY: I think not. Answer this question, Mr. Edgerton.

Q. What, in your opinion, do the words "service mains" mean in the gas business?

A. The mains to which service pipes are attached.

3954 Q. Have you made tests and ascertained the pressure of illuminating gas furnished in the Island of Manhattan at various points thereon?

A. I have.

Q. Were the points of observation that you selected at different elevations above the sea level, at different distances from gas holders or holders supplying the gas?

A. I observed at those points I thought likely to give the greatest difference of pressure, the highest point and the lowest point and those most remote as well as a few nearer the works. I have not made as complete a study as I should like.

Q. You have taken these readings right up to the present time, have you not?

A. Up to last Friday was the last I think I took.

Q. Where these pressures were not recorded as being the pressure in the service mains as defined by you, have you made a calculation therefrom or an approximation thereof so as to ascertain what the pressure in the service mains would be?

A. I put the apparatus generally on the services that were not in use at the time, or I instructed the parties not to turn on the gas while the machine was in use or in some places where they used electricity for lighting and had gas merely to back it up, as it were.

Q. And in all these readings, you are prepared to state what in your opinion the pressure would be in the service mains?

A. Yes, sir.

Q. From which the gas is drawn which you used in the experiments?

A. Yes.

Q. Will you describe the apparatus with which you took your pressure readings, and if you have such apparatus with you you may produce it and describe it therefrom.

3955 Mr. MATHEWSON: May I ask the witness if he made these pressure tests with the same apparatus at every place?

The WITNESS: I had two machines so as to take it at one point and take it the same evening at another point so as to connect them.

(The witness produces a machine.)

Q. Now, the name of this machine is what?

A. The Richards Brothers Recording Manometer. The operation of it is just simply——

Q. In your description say what the various things are so that we won't have to put this in as an exhibit.

A. The machine consists essentially of a cylinder about four inches in diameter and six inches high, operated by clock work. On this cylinder is placed a paper ruled in millimetrical lines and a pen is made to traverse on the sheet of paper, the pen being operated by the pressure of the gas, the pressure of the gas communicated to the pen by a diaphragm to which is attached various mechanical devices for transmitting the motion of the diaphragm to the pen.

Q. I notice this chart is ruled in curved lines. Why are those lines not straight?

A. That is owing to the fact that in order to get great sensitiveness of movement the lever holding the pen is operated on very delicate centres and this circular movement of the pen is due to operating from a centre instead of vertically up and down. The clock work of cylinder is arranged to revolve the cylinder once in twenty-four hours thereby giving a continuous reading for a day. The apparatus is sensitive when properly adjusted to about 1-100th of an inch pressure. I have compared this instrument with the absolute column of water gu*a*ge and find it to be perfectly accurate.

3956 Q. And this is an instrument you have used in the experiments?

A. Yes. and one like it; two of the same description.

Q. And you have compared the other instrument to ascertain whether or not it is correct?

A. Yes, I compared it with this one also.

Q. And is that also, in your opinion, correct and in perfect adjustment?

A. Yes, sir.

Mr. KIRBY: As it is now one o'clock and I am next to take up about twenty-five of these charts and give the readings from them I think we might take a recess now for lunch.

Mr. BURR: Before we do that I wish to state that Mr. Marks and the head accountant representing Marwick, Mitchell & Company are here from the office of the Consolidated Gas Company and report to me that Mr. Carter refuses to allow them to examine the real estate account as I thought I had understood with Mr. Mathewson this morning before we began that they might. Mr. Carter is also here and I would like to have that matter straightened out.

Mr. MATHEWSON: Suppose you strike that statement off the record. Mr. Carter and I understood Mr. Marks came here for the express purpose of arranging the matter now.

Mr. BURR: There is no use of arranging it privately unless it is finally understood. I want it on the record. We want to know whether we are going to have this account.

The MASTER: If there is going to be any more of this discussion back and forth of what has or what has not been refused or permitted I do not care to have it taken on the record because it makes it

unnecessarily cumbersome. If you gentlemen cannot agree, each side place its position in writing, submit it to me outside of
3957 this record and I will decide it. But it is an unnecessary waste of time to have discussions as to whether Doctor Marks has or has not been allowed to get all he wants.

Mr. BURR: I fully agree with you. The statement made by Mr. Mathewson was very plain this morning and I thought there was no difficulty in examining the books of the Consolidated with regard to the real estate account.

Mr. MATHEWSON: The real estate account is ready for examination and Mr. Carter has prepared a transcript so as to facilitate your checking of the real estate account. Mr. Carter says the statement of counsel is an absolute misstatement—a mistaken statement of the facts. There has been no such refusal.

Recess until 2.15 p. m.

After Recess.

HENRY H. EDGERTON resumed.

By Mr. KIRBY:

Q. Mr. Edgerton, the experiments or readings which you made upon the pressure of the gas in the manner you have indicated were made upon the instrument you have described and upon a certain chart or diagram placed thereon. I hand you such a chart as is used upon this instrument and ask you if you will describe it, that is what the division of the line means and what the standard is, that is whether in inches or meters.

A. The charts are in millimeters, but I have ruled a 2½-inch line and also a 1-inch line from the zero point in order to show
3958 the pressure relative to the Act.

Q. I notice that on these charts in some instances you have drawn a line shortly above that on the chart marked zero. Why did you draw such a line?

A. In the use of this instrument it is better to make a fresh zero at every point where the pressure chart is taken for the reason it does not always coincide with the zero of the chart, and for that reason in placing the instrument in position I always make a fresh zero mark to measure from, it being easier to do that than it is to regulate the hand back to zero.

Q. Now you have drawn a line above that which we will call the true zero line, being somewheres around the line indicated by the figure 30 on the diagram.

A. Yes.

Q. What does that line indicate?

A. That indicates the inch line measured from zero.

Q. Now you have drawn another line, still further above this one close to where the line indicated on the chart as 70 is drawn. What does this top line indicate?

A. The top is the 2½-inch line.

Q. Now I notice that at the top of these various diagrams names,

such as Columbia University, and so forth, appear. What does that indicate?

A. That indicates the point where the pressure sheet was taken.

Q. And thereafter a date. What does that indicate?

A. The date upon which it was taken, that is the date upon which the registration commenced. It ends off at a day later.

Q. I also notice certain designations such as 3 p. m., 9 p. m. and so forth along the top of the chart. What does that indicate?

A. That indicates the hours of the day and night.

Q. And to find the pressure at any such hour or any intermediate period between the hours you would trace the curved vertical
3959 line down to a point where it intersects the broken line, the line as registered, and read pressure, the pressure in the horizontal lines which would show fractions of an inch. Is that the way you would so use the chart?

A. It shows fractions of a millimeter and can be readily converted into inches. I will add that these charts are all the natural scale, that is, they are on the scale of actual inches, the instrument is so arranged as to show inches and millimeters on the actual scale of inches and millimeters.

Q. In other words, in measuring the pressure either in inches or millimeters you would measure on the curved vertical line instead of on the chord of that curve, which would be a straight line?

A. Yes.

Mr. KIRBY: Now, I might state that I am going to ask Mr. Edgerton to describe these charts and that these are all of the charts which he took. In other words, they run chronologically except on such days that he did not take them. In other words, there are no bad ones left out and merely good ones put in.

Q. I show you a chart which is headed Columbia University and dated October 5, 1906, and ask you to state where this was taken and under what circumstances and to take the readings from the time the instrument was started in operation and carry them through for the twenty-four hours giving us in a few words the result of that reading?

A. The first chart in question started October 5, 1906, at Columbia University, in 116th Street, at 3 P. M.

Q. Where was the instrument placed, in what part of the University?

A. In Room 206.

Q. What place is that?

A. It was on the Amsterdam Avenue side, about ten feet above the street level at the point where it is taken.

3960 Q. What did you attach the instrument to, how did you attach it?

A. I attached it to a pipe isolated for the purpose, and so far as I could see no other consumption on the pipe and made sure that the instrument was in perfect adjustment as regards zero and then I compared it with a water pressure gauge to see that it indicated the pressure when it was turned, that it indicated the same point as on the water gauge in comparison, and then having previously wound

it up, let it go on its course indicating the pressures as they *are* progressed.

Q. Do you know approximately how high this point is above sea level?

A. From information from Professor Hallock, who told me it was about 150 feet above. I have not had a chance to verify that.

Q. Now, will you take the chart from the beginning.

A. It shows that at 3 P. M. the pressure was, as indicated here, 63 millimeters from zero or 61 millimeters from the instrumental zero. Its pressure continued substantially at that until the hour of 5 P. M. when the pressure began to fall on account of the consumption of gas in that neighborhood. I notice that at the hour of 4:45 they commenced to put the pressure on the governor at the holder as indicated by these vertical lines, lines there, which shows where the man put the weights on the governor and at an interval of fifteen minutes he put on another weight. The pressure still falls until 6:20.

Mr. MATHEWSON: These weights are for the purpose of increasing pressure?

The WITNESS: Increasing pressure, but the pressure falls notwithstanding until about 6:20. Then the pressure rises quite rapidly until at 7:30 it has reached the 2½ inch line. It is then continued slightly above that line.

3961 Q. What do you mean by slightly, about how much in inches?

A. About 1-10th of an inch above the line until——

Q. And from time to time dipping down?

A. And from time to time dipping down below the line until 2 o'clock in the morning when it reaches the 2½ inch line and remains at that until about lighting time in the morning, that is 3:30, they put on pressure again for the morning hour lighting, and that sent it up to 1-10th inch above the line and the consumption again reduces it until 7 o'clock when the pressure is reduced for daylight and comes down below the line about 2-10ths of an inch and continues on with slight variations until 3 o'clock in the afternoon.

Q. When you say it comes down below the line you mean the line indicating pressure, the 2½ inches?

A. 2½ inches.

Q. And that is what happened on October 5th at Columbia University in the place you indicate.

A. Yes.

Mr. KIRBY: I offer this in evidence.

Chart received and marked State's Exhibit JJ-1.

Q. The next test you have at Columbia University is October 9th, 1906. Was this taken at the same place?

A. Same place and under the same conditions.

Q. And will you in the same way describe the results as indicated by that test and make your description in tenths of an inch if it is convenient for you to do so. What time did this test start?

A. This test starts at 9:30 A. M. The pressure remained below the 2½ inch line with slight variations until the time of lighting up

and putting on of the governor, attaining its lowest point at
3962 5:30 P. M., being at that point 21-10ths of an inch and the pressure rises then gradually until 7:30 when it has attained 2 and 6-10ths, remaining at that until 11:30 P. M. when the weight is taken off the governor reducing the pressure to about 2½ inches, at which pressure it continues until 4:30 in the morning, the same as on the previous day. A slight pressure was put on at the governor at 4:45 in the morning and kept on until about 6:30, the lowest pressure of the night being 2 and 4-10ths and the highest 2 and 7-10ths.

Mr. KIRBY: I offer this in evidence.

Chart received and marked State's Exhibit JJ-2.

Q. The next test you took at the university was one on October 11, but inasmuch as that is to be put in in comparison with another, we will take up the test on October 13th, if you will?

A. On October 13th the test was put on at 9 a. m., but it seems either from not having been properly inked or for some reason the registration does not start until 11:45. This chart presents the same characteristics as the former, attaining its lowest point at 5:45, two and two-tenths inches, and then rising until the highest point during the night at 10 p. m., of two and seven-tenths, the average height being slightly greater than the previous charts.

Q. By "slightly," what do you mean, one-tenth of an inch?

A. About 15-100ths of an inch, I should say on an average. The maximum would be two-tenths.

Q. Now, on October 14th you took a further test at the University, didn't you?

A. October 14th, it was put on at 9 a. m. and presents the pressure remaining below the two and one-half inch line until 2 o'clock.

3963 Q. Does this chart show any material deviation from the indication set forth in the one of October 13th?

A. No, practically the same, only with slightly less variation. It seems as if there was less consumption on the mains during that day. Was that Sunday?

Q. Yes.

A. That accounts for it, being Sunday, showing less variation than there was during the weekdays.

Q. On October 15th, we have another chart. Does that show any material difference from the ones of October 13th and 14th?

A. The only noticeable difference is that it is carried at the lower pressure, it does not rise above the two and one-half inch line except for a short period and this for a distance of one-tenth of an inch.

Q. And October 16th we have another test; wherein does that differ from the others, if at all?

A. The same as the 15th except slightly greater pressure at night, rising two-tenths of an inch above the two and one-half inch line.

Q. And on October 17th you have another test. Does that differ in any material point, and if so, where?

A. No difference except the instrument appears to have been off during half an hour for some change of connection, it states.

Mr. MATHEWSON: What states?
The WITNESS: The chart.

Q. You have noted upon the chart where no indication is given of the pressure, that is due to some change you made in the connection of the instrument?
A. Yes, putting on some photometric apparatus, probably.
Q. What time of the day was that?
A. That would be at 1:15 and lasts until 1:45.
Q. But other than that.
A. There is no essential difference. The maximums are
3964 a little greater, perhaps one-twentieth of an inch, than the previous one.
Q. You have another test for the same place on October 18th. Does that indicate any essential difference from the other reading?
A. None whatever except the maxima are almost all between the two and one-half inch lines. They exceeded only in one or two instances.
Q. And by how much and for how long?
A. One-half of a tenth of an inch for a period of half to three-quarters of an hour.
Q. Another reading was made on October 19th?
A. On October 19th it is kept below the two and one-half inch line with the exception at night about 10 P. M. it was about one-fiftieth of an inch above the two and one-half inch line.
Q. On October 20th you have another reading. What does that indicate?
A. It is wholly below the two and one-half inch line day and night.
Q. And October 21st?
A. It is all below the two and one-half inch line.
Q. And in no instance on October 20th as low as what?
A. In no instance lower than two inches.
Q. And on the 21st, no instance as low as what?
A. As low as two and one-quarter. The 21st seems to be another Sunday.
Q. On the 22d what do we find?
A. On the 22d we seem to have another holder in connection with that supply during the daytime and it is substantially below the two and one-half inch line.
Q. And a great many trivial variations?
A. Yes, showing the vacillations of the governor.

By Mr. MATHEWSON:

Q. What do you mean by saying they seem to have another holder?
3965 A. Well, you see the difference between the 21st and 22d in the daytime is very noticeable. It looks to me as if—and I am pretty sure, too—that on the 22d there was some other governor than previously used because there is a continued vibration of governor there.

Q. And that is a deduction you make from looking at the chart?
A. Yes.
Q. You can see by comparing this one with the other?

By Mr. KIRBY:

Q. Now, on the 24th you made another reading. What does that indicate?
A. It is all below the two and one-half inch line except a short period, a period of four hours during the night when it might have exceeded it by a twentieth of an inch on the average; it being a change every quarter of an hour there looks as if some one was attempting a valve regulation and probably it is, for I do not see that the governor regulations should vary in that manner. You notice that almost all these variations occur at intervals of just a quarter of an hour.
Q. Now, on October 24 there is another reading?
A. All below the two and one-half inch line till 7 P. M. when it rises slightly above it until 12 P. M. and then the pressure is reduced and the average is about on the line until 7 A. M., when it descends below.
Q. On October 25th?
A. The registration in this case is all below the two and one-half inch line until 7 P. M. when it rises above and until 12 and then averages on the line during the rest of the night.
Q. I notice this chart is not marked with the hours of the day. When did you start to take your readings?
A. I see that has been omitted in this chart, but I judge from the lowest point being 5 o'clock, as it corresponds with the rest,
3966 that seems to be the hour—no, 6 o'clock, I should say, that seems to be the point where the lowest readings occur there.
Q. It would indicate the peak of the load——
A. It indicates that the peak of the load in that district——
Q. And that point corresponds with the 6 p. m. in the other charts?
A. Yes.
Q. So you would judge that this was commenced as they are at 9 p. m.?
A. Yes.
Q. You made another reading on October 26th. When did you commence on that day?
A. Nine a. m. This chart is somewhat different from the other one, for at various periods during the daytime we filled a small gas holder with gas and it is indicated on the chart by a lowering of about tenths on the pressure. After the minimum was obtained, which was at 6 o'clock, amounting to 2-inch pressure or 20-10ths, the registration remained at the 2 and 1-2 inch line during the rest of the day and night.
Q. Now the comparatively large decrease in pressure as indicated on these charts by the use of a gasometer in drawing off gas for the experiments, which I presume were those of Professor Hallock, would indicate to you, would it not, that there were no other burners or

other sources of escapes of gas from the pipe to which you attached your apparatus?

A. Yes, I know there was nothing going on on the pipe, because I examined into that and there was nothing. Also when we turned on the gas holder, it shows here by the dropping that would amount possibly to three or four burners, not more than that, because it was very slow filling. There was nothing else on in the building.

Q. By gas holder you mean the holder——

A. The gas prover.

M-. KIRBY: I offer these charts in evidence.

3967 The charts were received in evidence and marked State's Exhibits JJ-3, JJ-4, JJ-5, JJ-6, JJ-7, JJ-8, JJ-9, JJ-10, JJ-11, JJ-12, JJ-13, JJ-14, JJ-15, JJ-16.

Q. On October 11th you also took readings at Columbia University, did you not?

A. Yes, sir.

Q. On the same day did you take readings at a place known as Columbia Printing House, No. 386 West 125th Street?

A. Yes.

Q. Is 386 West 125th Street at a lower elevation than the point in Columbia University where you took the other readings?

A. Yes, it is about as low a point as I could find on that street.

Q. I understand then it is your best information that Columbia University obtained this gas from the Consolidated Gas Company or that the meter is so marked?

A. Yes.

Q. The gas furnished at the Columbia Printing House is how metered?

A. That man's bill is from the Standard Gas Light Company, but the mains are connected there so they show essentially the same. It is the same gas holder which supplies both, or did at that time.

Q. You have read the testimony here to the effect that the mains are interlocked——

Mr. MATHEWSON: No, they are not. That is where you make a mistake. There is no testimony of that sort except that we procure a certain amount of gas from the Standard Gas Light Company under agency agreement and where it is delivered to our main it interlocks in that sense, but there is no interlocking of the Consolidated Gas Company and the Standard mains, you understand that, Mr. Edgerton?

The WITNESS: Yes, I see. I am only struck with——

3968 Q. Wait a moment, we will come to that. Now the chart taken at Columbia University has the same general character as those others which have been placed in evidence and which are marked State's Exhibit JJ-1 and so forth, has it not?

A. Yes.

Q. And the chart taken at 386 West 125th Street shows what in itself and also shows what in comparison with the chart taken at the same time at Columbia University?

Mr. MATHEWSON: The Master will observe that this 125th Street place is the Standard Gas Company, while at Columbia College it is the Consolidated Gas Company meter, so that what the comparison may be worth I do not quite see. I have no objection to its being put in however.

Mr. KIRBY: I pointed out that distinction myself and I wanted to be perfectly fair, but I think you will see the relevancy and importance as this develops.

A. At the bottom of the hill there is a loss of pressure compared with the top of about half an inch during the daytime. When you come to the lighting time, this Columbia Printing House put on one burner and reduced the pressure to 1 and 1-10th inches. Then at 6.20 they put on another burner and reduced the pressure to 7-10ths.

Q. That is the pressure at the point where your instrument was connected and where you took your reading?

A. Yes. And at 8 P. M. it seems his light was turned out and the pressure went back to the normal which is 2 inches and continued along at 2 inches until about 5:45 A. M., when some change was made in the regulation of the gas at the holder which caused it to jump up temporarily to 2¼ inches and it immediately fell
3969 back again to 2 inches.

Q. Now, will you take the chart taken at 125th Street at the bottom of the hill and the chart taken at Columbia University at the top of the hill and interpose one upon the other.

A. (Witness does as requested.) I will show you that this gas came from the same place. You cannot see it except by putting it upon the glass, but every movement of the gas holder or the gas in the mains between that Consolidated Gas Company consumer at the top of the hill and the Standard consumer at the bottom are identical.

Q. In other words, the variations in pressure as shown on the chart taken at Columbia University correspond with the variations in pressure taken at the printing office at the bottom of the hill on 125th Street?

A. Except that the average pressure at the bottom of the hill was three-quarters of an inch less than at the top.

Q. And what was the minimum pressure at the bottom of the hill?

A. The minimum pressure on the main was two inches.

By Mr. MATHEWSON:

Q. At the bottom of the hill?

A. At the bottom of the hill.

Q. Seven-tenths, wasn't it?

A. That was when it was burning.

Q. But we are talking about that whole chart?

A. I thought you were speaking about the pressure on the main.

By Mr. KIRBY:

Q. And this seven-tenths of an inch which Mr. Mathewson refers to shows a pressure at what point and due to what in your opinion?

A. The drop in pressure due to the man lighting up his
3970 burners. He lit up one burner and it drew it down to one and one-tenth inches and the second burner drew it down to about seven-tenths of an inch.

Q. Drew it down where you had your instrument placed?

A. Yes.

Q. Where was that?

A. That was in the back of his shop not more than twenty feet from the meter.

Mr. KIRBY: I offer those two charts in evidence.

Charts received and marked State's Exhibits KK-1 and KK-2.

Q. Now, on October 12th you took comparative readings at the same places, didn't you?

A. Same places. They are the same general character and almost identical except I arranged with the man not to turn on the gas at night.

Q. Arranged with man where?

A. With the proprietor of the Columbia Printing House not to use the gas that evening so I could get a perfect record to compare with the top of the hill.

Q. So that these two charts show the pressure with no gas being used either at the University or the printing house from the service pipe to which you had your instrument attached. Is that so?

A. That is so. No interference with the registration by the use of gas.

Q. Do these charts show the same minute variations in pressure at both the University and the printing house through the hours at which the readings were taken?

Mr. MATHEWSON: Whether they do or not, it does not seem to me——

A. No. There were different holders on them. They were supplied from different sources.

3971 Q. In the reading taken at the bottom of the hill, what was the pressure variation during the twenty-four hours?

A. The greatest pressure variation in twenty-four hours at the bottom of the hill was three-tenths of an inch at 5:30.

Q. Three-tenths of an inch, what do you mean by that?

A. Three-tenths of an inch water pressure, a column of water.

Q. In other words, was it below one inch?

A. No. I understood you to say the variation.

Q. And what was the minimum?

A. One and seven-tenths inches.

Q What was the maximum?

A. Two inches.

Mr. KIRBY: I offer those two charts in evidence.

Charts received and marked State's Exhibits LL-1 and LL-2.

Q. Now, in addition to these tests which you have testified to, you took readings in various other parts of the country, didn't you?

A. Yes, sir.

Q. Did you make a test at the Grand Union Hotel on August 18th?
A. Yes; August 17th and 18th.
Q. What does that show in a general way, without going into minute deviations?
A. Well, it shows at 7:15 they put on a pressure of three-quarters of an inch at the works and continued it along until 10 o'clock and then at intervals of half an hour they diminished the pressure by .2 until 12 o'clock when it came to the lowest point, then the pressure continued along very even, a very fine regulation, until 6 o'clock in the morning and throughout the day; very excellent regulation.
Q. Now, on October 15th, did you take a reading at 3607 Broadway on the fifth floor of that apartment house?
A. Yes. This sheet was one put on by Professor Hallock and handed to me.
3972 Q. That runs through into the 14th, does it not?
A. Yes, Saturday and Sunday, the 13th and 14th of October. This, as I understand it, is considerably higher than Columbia.

By Mr. MATHEWSON:

Q. Where is that?
A. 3607 Broadway, the fifth floor of the house.

By Mr. KIRBY:

Q. How high up is the fifth floor? Have you made any measurements thereof?
A. I did not get a chance to measure that yet.
Q. That shows a variance above and below the maximum of 2½ inches?
A. 2½ inches just about fills the bill.
Q. By "fills the bill," you mean——
A. There is a full variation.
Q. That would be the average that the R points upon that, where it goes above the maximum?
A. Yes.
Q. On October 15th, did you take a reading at No. 1 Platt Street?
A. Yes. That was put on at 5:15 and obtained the pressure of two inches and the minimum pressure was 1.7 obtained at 5:45, maximum 2.4, running until morning with a slight variation.
Q. There is no point in that. Did the maximum rise above two and one-half inches?
A. No, sir.
Q. And at the highest of all points it was above two inches?
A. Yes, sir.
Q. You took another reading at No. 1 Platt Street on October 16th, did you not?
A. Yes, same character as the previous except in the morning a gas engine—in the morning at 8 o'clock a gas engine appears to have been started up in the vicinity and caused a vibration during the day.
3973 Q. But the pressures are still within the two and one-half inch maximum and do not fall below two inches except at one point when it fell two—— .

A. .16 of an inch.

Q. Now, on October 17th and 18th, you took certain readings at No. 2B Platt Street?

A. That is a consolidated meter there, I was uncertain about that other point.

Q. And what does that show?

A. That shows a general average of two inches, nowhere reaching the two and one-half inch line or getting below one and one-half inch. The water in the main shown at the time of the greatest consumption appears to be a chunk of water there which interferes with things. So I investigated in the neighborhood and I found that the consolidated pipes had water in, very much interfering with the light, and it extended for several blocks.

Q. Now, you took a reading on October 30th, did you not, at 11th Avenue and 50th Street?

A. Yes.

Q. How much does that show?

A. That shows a general average of two inches and a minimum of 1.1 at 6 P. M.

Q. At that point not falling below two inches?

A. Not below two.

Q. And having a maximum not greater than how much?

A. Than two inches.

Q. A maximum of 2.1, isn't it?

A. No, two inches.

Q. Being practically a consonant except for the peak point at 6 P. M.?

A. Yes. This diagram shows a peculiarity; there was a gas engine running in the neighborhood also.

By Mr. MATHEWSON:

Q. What indicates that gas engine; that drop?

A. No, this jumping here, this zig-zag line. You see the
3974 time it started. The peculiarity about this chart is that it is within about six blocks of a gas works and eight blocks from another and yet there is the minimum and it is nearest to the gas works, a very peculiar feature. It indicates that the pressure was maintained by gravity.

Q. Now, these were all the tests or readings which you took with the exception of some few which were done during the——

A. At times of small consumption. I did not consider the charts taken before gas stoves, on top of lighting, as being——

Q. These are the only charts with full runs of twenty-four hours so as to show the indication during the day?

A. Yes.

Mr. KIRBY: He had some charts taken for a few hours which he did not really consider a fair test of what was going on and so we did not offer them. I offer these charts in evidence.

Received in evidence and marked respectively State's Exhibits MM, NN, OO, PP-1, PP-2, QQ-1, QQ-2 and RR.

Q. From the result of these experiments of pressure you have

made and about which you have just testified, and upon your experience as an engineer, builder and operator of gas plants, in the manufacture and distribution of gas, do you or do you not consider that the Consolidated Gas Company can maintain a pressure in service mains such as you have described them of not less than one inch nor more than two and one-half inches?

A. I think that can be maintained under due precautions.

Q. You consider such a pressure could be maintained without any change in their present distributing system?

A. It would appear so, as far as I have examined the pressures.

3975 Q. Do you consider that by the introduction of certain changes in the company's system of distribution that a pressure in any service main at any moment of not less than one inch nor more than two and one-half inches could be complied with, with less care and attention, and less risk of a momentary compliance than under the present system?

A. Yes, I do think it can be done.

Q. Do you think it could be done practically without great expense?

A. I think so.

Q. This morning you stated that you had made certain experiments from time to time with regard to candle-power or, rather, illuminating efficiency under different pressures, with regard to the pressure required for the proper operation of gas burning appliances for the purposes of heating, cooking, etc. Did you assist Professor Hallock in the experiments he made and about which he has testified?

A. I did.

Q. Are the results stated by him accurate and correct results of experiments?

A. I think they are substantially the same as my own.

Q. Have you made any other experiments than these?

A. On New York gas?

Q. On New York gas?

A. I experimented on New York gas since 1872.

Q. Experimented upon it for the purpose of finding its illuminating efficiency?

A. Yes.

Q. The proper point of pressure for the consumer along the same lines as the experiments taken by Professor Hallock?

A. Along the same lines.

Q. Have you experimented with illuminating gas elsewhere?

A. I have.

Q. For those same purposes?

A. For the same purposes.

Q. Have you made any experiments upon the Welsbach burner for this purpose?

3976 A. Yes, I interested myself in the Welsbach burner at a very early date and made continuous experiments on the original burner and all improvements I have been able to hear about or been told of.

Q. Have you used any special apparatus for this work?

A. I have used all known established standards. The Pentane standard, the candle standards, Mobile lamp standard, the Methven standard, and such modifications and improvements in the photometer itself as have occurred from time to time, the revolving disc and various conveniences and appliances that make observations more accurate.

Q. Have you brought forth a standard of your own which you have used in conjunction with these others?

A. I brought out several standards; I first published in 1875 the Mobile lamp standard, now called after me, but I call it the Mobile lamp standard, because I first brought it out at that point. I also brought out and described before the Gaslight Association a standard almost identical, if I may say, with the present Elliott Standard Flat Flame.

Q. Is this standard which you modestly call the Mobile standard, but which is known as the Edgerton standard, in use in any of our scientific schools or by the government?

A. I have heard of its being used in quite a number of places. At one time the United Gas & Improvement Company made use of it, and I noticed in reports from various gas companies that they use it.

Q. Do you know whether it is used by Harvard University or Columbia University in the scientific department?

A. I found a peculiar use of this standard by Harvard University described in a periodical, used in order to standardize the photographic plates of which they make star maps. It is desirable to have photograph plates of uniform density in development and to accomplish that they had to have a standard light and I notice
3977 they adopted this standard. Also the government used this standard in the lighthouse service.

Q. In the course of your work and studies have you experimented with appliances using gas for heating of cooking purposes, relative to the required pressure for the proper use of the same?

A. I have.

Q. And where, when and how long?

A. In the very beginning of my experiments in gas lighting I kept up a set of tests on various heating devices, gas stoves and gas in Fort Wayne, Indiana, I might say in New Orleans, and at Mobile.

Q. In New York City, Borough of Manhattan?

A. New York City and Danbury.

Q. Are you familiar with the different kinds of appliances in general use burning illuminating gas for heating and cooking purposes?

A. I have had to do with almost all of them, most of all the different stoves and heating devices, getting them in and getting them adjusted to the best advantage.

Q. Now from your experience and from your experiments what do you think is the pressure required at the point of issuance of the flame for the proper operation of the appliances using gas for heating and cooking?

A. At the point where the gas issues in contact with the air, and that is where they are using the stop-cock shut off, the pressure rarely exceeds .3 of an inch.

Mr. MATHEWSON: I do not think that was the question quite.

The WITNESS (continuing): Well, it is generally set down to that. Where the wheel or needle valve is used the pressure can be brought to any point that the gas will give, 2 inches or 2½ or ½ an inch or any other pressure, but on most of the stop-cock apparatus it will be found on test that the pressure at the point of issue very seldom exceed- three-tenths, or four-tenths and they will give a good flame.

3978 Q. That gives good and satisfactory results?

A. It is not quite as satisfactory as a slightly higher pressure, but there is no discoverable loss of efficiency, nor is there any trouble about striking back.

Q. What do you mean by striking back?

A. Striking back is a phenomenon where the gas issues so slowly from the point that the light will travel back through a mixture of gas and air and ignite it right at the point where it comes out, destroying the power of the flame to heat up.

Q. So that instead of having a flame which consists of the combination of gas mixed with air, you will simply have gas burning before it has an opportunity to become mixed with the air?

A. Exactly.

Q. So that the first requirement of a gas burner apparatus is to have a pressure sufficient to prevent it from striking back?

A. It is absolutely necessary.

Q. And what pressure did you say was necessary for this purpose?

A. On all ordinary gas stove apertures, a pressure of three-tenths to four-tenths will prevent it striking back.

Q. You consider that a pressure slightly greater than this amount is more satisfactory?

A. Yes, it would be more satisfactory.

Q. What do you mean by "slightly greater?"

A. Oh, inside of an inch it would be satisfactory, perfectly.

Q. Now in regard to the class of apparatus which do not use the burner which you have just been speaking about, but the jet type, is there any danger of striking back?

A. You mean the wheel valve type?

Q. Yes.

A. No, ordinarily with that where it is turned on sharply there is no danger of striking back whatever. If turned on slowly it might do so.

Q. Is it possible to so regulate this class of apparatus so as
3979 to be as efficient and as convenient and effective in operation with low as with high pressure, that is, with pressures about an inch and pressures as high as two inches?

A. I think from an inch to two and one-half you could regulate it just as well as though you had any other pressure. I don't see any difference.

Q. So that would be as efficient and convenient for use with one inch as with a higher pressure?

A. Yes. I could explain the reason. Do you want me to explain the reason for the higher pressure?

Mr. MATHEWSON: I don't think he knows. I shall object to that.

Q. Now, from your experience and experiments with various kinds of open flame burners, what do you find is the most efficient and most convenient pressure to be used in the burner suitable for illuminating purposes?

A. Taking the city test burner to start with——

Q. What do you mean by the city test burner?

A. The one used by the city tester to test the illuminating power of gas.

Q. What burner is that?

A. That is the Bray Slit No. 7. The pressure at the point of ignition there, giving the highest result is from .14 to .18 of an inch. The pressure as required for an argand burner is about .1 inch.

Q. Does this pressure with the Bray give a satisfactory flame?

A. It gives a highly efficient flame but it is a vacillating, bobbing flame, not a stiff flame, such as consumers generally would like.

Q. What would you consider the best pressure not only for efficiency but for convenience and satisfaction of consumers?

A. In this Consolidated gas as made at present, about .6 would be the all-around and most satisfactory point of pressure at ignition.

Q. Go to the other burners, what do you find?

3980 A. With the consumers' burner you stand slightly more but with a loss of efficiency compared with the Bray of about, well, from 22 candles down to 18 or somewhere along there, that would be quite a large loss of efficiency to get a steady flame.

By Mr. MATHEWSON:

Q. What do you mean by the consumers' burner?

A. The E. H. Lava tipped is a type, excavated head, that is most generally used.

By Mr. KIRBY:

Q. Such a one as known as a bat-wing lava tipped burner?

A. Yes. Walking around the streets of New York City I see probably ten of those used to one of any other type.

Q. With regard to the Welsbach burners what did you find?

A. Efficiency in the Welsbach burner adjusted by the photometer so as to obtain the highest point is practically the same between one inch and two and one-half inches. I speak of the efficiency per cubic foot of gas.

Q. Now, it is true, is it not, that the efficiency of a Welsbach increases materially under certain——

A. Under heavy pressures and where you get a blow pipe action making a sort as it were of blast of air you can run the efficiency of the Welsbach up to three times the ordinary efficiency, perhaps higher—four to eight inches, which per cubic foot would be very much higher. I have not verified those higher pressures but I have no doubt they are correct as stated in the tests. I have seen the tests made but I have never used the apparatus myself.

Q. In the ordinary use of gas you never obtained such high pressure, did you?

A. No, I have not. I have calculated to try and
3981 & 3982 induce those high pressures by means of individual pressure "boosters," you might call them.

Q. But they are not such pressures as are obtained directly from gas mains in this or any other community with which you are familiar?

A. I failed to obtain any higher results from ordinary pressures. At the highest point of the ordinary pressures and with the most modern pressures in regard to the Welsbach burners, there may be a little less liability to smoke with rich gas.

Mr. KIRBY: That is all I have with regard to the subject of pressure and candle-power, and as I stated before I ask to have permission to examine Mr. Edgerton on other subjects.

Mr. MATHEWSON: I should be glad if we could adjourn now instead of an hour later to-night. I am very anxious to get uptown before closing. I shall not take long to cross-examine this witness; at any rate I can easily conclude in the morning session Wednesday, if that will meet the view of the Master.

Mr. KIRBY: That is quite convenient to me.

The MASTER: Do you want to suspend at half past four?

Mr. MATHEWSON: I would like to suspend now.

At 3.45 o'clock p. m. adjourned to Wednesday, November 7th, 1906, at 10.30 a. m.

Last Exhibits:

Complainant's, 256.
State's, RR.
City's, 63.

3983 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *November 7th*, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Kirby.

3984 Mr. BURR: We had some discussion at the last hearing with regard to the City being permitted to examine the maps of the Company showing the mains of the Consolidated Gas Company in the streets. In making such an application I relied upon the testimony of Mr. Simpson, as it appears in this record on page 355,

in which he states that these maps show every main of the Consolidated Company in every street in the Borough of Manhattan; and on page 355 we made a demand for an examination of those maps and Mr. Mathewson objected to it because of their bulk. Because of the conflict of opinion with regard to the propriety of examination of the note-books from which the maps were made up, or claimed to be made up, I visited the office of the company on Monday and had an interview with Mr. Addicks and Mr. Carter there. It seems to me quite evident from a cursory examination of the books that it would take a month or two to make up any schedule from those books regarding the mains; but the maps themselves, it is quite plain, will show with very little trouble the exact location of the mains, but will not show, as Mr. Simpson has testified, their distance from the curb without reference to the books. And my expert, Doctor Marks, informs me that within ten days, with a few assistants, he can procure or take from the maps a statement showing the duplications and all the particulars that he desires to have with regard to these mains. I have here a letter from him advising me with regard to that; and he is perfectly willing to consult with Mr. Simpson in case any discrepancy between the statement presented by Mr. Simpson as to the mains, number of miles and sizes; and any discrepancy that may exist between that statement given here and such as may be found to result from an inspection of the maps. I submit that we
3985 are entitled to that, as it forms a very important item in the property of the company, and also forms a very important point in our defense, because we wish to establish if we can that the present arrangement of these mains is not an economical one, but because of duplication and triplication it adds an expense to the cost of gas which the consumers should not be justly required to pay.

The MASTER: There may be some question as to the materiality of that line of proof.

Mr. MATHEWSON: I certainly shall make the point that it is wholly immaterial. I wish to say in respect to this application that after the conference between counsel and the Master, we have decided to permit the examination of the maps, but upon this statement: I have carefully examined the character of the maps prepared by Mr. Simpson and others, and find them to be secondary evidence, wholly secondary evidence. They are graphic representations of the records in the books. They are made up from the records in the books by clerks who may or may not in every case be accurate. They are not drawn to a scale on the maps, and if any discrepancy appears between the maps and the books, it would be so much the worse for the maps, because the books would be the exact and original entry and accurate entry. For instance, they do not show the distance from the curb, and the distance from the curb, considering the joints, and the going around corners, might make a difference of 100,000 feet, there being 60,000 corners, I think in New York, perhaps more; something like 20 miles difference in that alone. And the examination of these records will not bind us as an original record. Our opponents have asked to go to the original sources, and we have offered them the original sources, and I want it to be

understood in advance that nothing as to dimensions or otherwise appearing upon those maps which may differ from the records
3986 of the books, if there be any difference, would be reliable, but the books alone would be. In other words, they are made from the books, and I do not want counsel to come in here after making a crude measurement of those maps by steel tapes and claim that anything they find is in conflict with the actual records of the Company as to its system.

The MASTER: That seems to avoid any misunderstanding about it.

Mr. BURR: Then what is the disposition of the matter?

The MASTER: Mr. Mathewson says that your men may be allowed to examine the maps.

HENRY H. EDGERTON resumed.

Mr. KIRBY: Shall I proceed?

The MASTER: I thought you had finished.

Mr. KIRBY: I have one more chart to put in which is taken up to 8 o'clock this morning.

By Mr. KIRBY:

Q. I will ask you to describe where that is taken, and during what hours, and what the general result is?

A. This chart is taken at a jewelry store fronting on Battery Park.

Mr. MATHEWSON: What jewelry store, what number?

The WITNESS: I have not got the number. I left my apparatus there and did not get the number, intending to go back and put it on again. It is on Broadway and——

Mr. KIRBY: I will supply the number of the store.

3987 The WITNESS: The record commences on November 5th, 5 P. M., and continues to November 7th at 8 o'clock A. M. The record shows a uniformity of pressure about midway between the 1-inch line and the 2½-inch line, and during the whole course of the registration does not depart from a uniform pressure to the extent of half an inch, except when the party had on a gas heater it went down slightly; so you can fairly say the regulation of pressure was within half an inch, of water.

Q. What was the maximum point on that reading?

A. Two inches on November 5th, and the minimum was 1 and 7-10th inches.

Q. On November 6th?

A. November 6th the maximum was 2 inches and the minimum 1 inch and a half.

Q. The pressure is registered on both sides of this chart?

A. Yes, sir.

Q. You, for the purpose of convenience, did not put upon the apparatus a new card, but merely reversed the one that was on for November 5th?

A. Yes.

Q. In what part of the store was the apparatus placed?

A. In the back end of the store, about 20 feet from the meter.

Q. Is the store on the ground floor?

A. Yes.

Q. That is the street level?
A. Yes.

Mr. KIRBY: I offer it in evidence.
Chart received and marked State's Exhibit 88.

Mr. KIRBY: Mr. Edgerton has not as yet had time to read over all his testimony, but desires that I should call attention to one important error therein. On the top of page 3980 it states, "with the consumers' burner you stand slightly more, but with a loss of
3988 efficiency compared with the Bray of about, well, from 22 candles down to 16 or somewhere along there." That ought not to be 16, but 18. With that correction, while there may be, and probably are, some typographical corrections which we have not noted yet, I am through with Mr. Edgerton, except that I do not want it understood, because I have finished in the matter of pressure, that the matter of pressure will not be referred to when it comes to the question of cost or anything of that kind, because naturally it may be referred to.

Cross-examination by Mr. MATHEWSON:

Q. Did you ever manufacture any gas-making apparatus, such as benches and retorts and things of that sort?
A. In what is known as the Kerr-Murray Manufacturing Company, Fort Wayne, Indiana, originally started as Murray, Baker and Walker, I gave them the benefit of my experience in regard to planning their apparatus and starting out in business.
Q. Are you a member of that firm?
A. No, sir.
Q. Have you ever been in the business yourself of manufacturing gas-making apparatus?
A. No, sir.
Q. Have you ever yourself as a contractor installed gas-making apparatus?
A. No, sir.
Q. As distinguished from an engineer?
A. I have been both engineer and contractor in numbers of cases.
Q. Do you hold the degree of civil and mechanical engineer?
A. No, sir.
Q. Do you hold a degree as engineer of any faculty?
A. No. I never graduated from any school of engineering, except experience.
Q. When you referred to Fort Wayne, Chicago, Sunbury and so forth, in the early seventies, do I understand that you your-
3989 self were the contractor who built those works, or were you supervising the building?
A. Sunbury, and those towns I mentioned within Northumberland and the adjoining county, myself and Mr. Patton were contractors and engineers both, took contracts for the work and drew up the plans for it and executed the work.
Q. Did you construct the New Orleans works?
A. Yes, sir.
Q. All of them?

A. No, sir. I reconstructed the coal gas addition in 1872-3-4, and drew up the plans and superintended putting it under contract.

Q. Did you stay there until the work was completed in New Orleans?

A. Yes, I was there until it was fired up.

Q. Were you there when the works were started and in operation, or were you absent at that time?

A. I think at the first firing up of the benches in 1874 I was not there. Mr. Forstall wrote me it didn't run well and I went down and straightened it up, and the trouble was the ground was full of water and the benches were saturated with water and he did not seem to realize the amount of time required to dry them out.

Q. You were not there when it was started up?

A. Not when he put the first fires in.

Q. Where is Mr. Patton at present? Is he living?

A. The last heard of him he was living, in Tennessee.

Q. When you say you were consulted as to the Mutual Gas Light Company of New York, do I understand that was a change from coal gas to oil gas or to water gas in 1872?

A. To what was known then as naphtha gas, the same as the present oil gas only they employed naphtha instead of oil.

Q. Do you mean the Wilkinson process?

A. The works did not start on the Wilkinson process. That was added subsequently. The works started under the Gale & Rand process, for which I was subsequently the engineer for the

3990 Gas Light Company of America.

Q. You say this was in 1872, and in 1882 you became connected with the United Gas Improvement Company?

A. Yes, sir.

Q. What duties did you perform in connection with that company?

A. I had certain views with regard to the proper introduction of oil gas and I only cared to go according to my own views as to the way the thing ought to be done. And therefore I only took charge in connection with such works as they built, according to my views, although I was consulted with regard to others.

Q. You say those are only New Orleans and Pensacola, don't you?

A. New Orleans, Pensacola and Wallingford.

Q. How long were you with this United Gas Improvement Company?

A. Nine years.

Q. You were not especially active, were you, while with them?

A. I think I was about as active as anybody connected with it. I say I demurred about making a highly poisonous water gas.

Q. Was that the reason why you left the United Gas Improvement Company?

A. Well, substantially. I think the difference of opinion in regard to the policy of the company was the reason we parted.

Q. You say with them you acted as engineer and chemist?

A. Yes, sir.

Q. What were your duties as chemist?

A. Testing of gas; and one important duty was finding out how to use gas oil, I think that was the most important. Before that it was an entirely waste product and the president of the company had urged on me the use of waste oil and intermediate oil and at last I found means of using it.

Q. You were not an officer of the United Gas Improve-
3991 ment Company, were you?

A. Certainly I was.

Q. What office?

A. Engineer and chemist—always addressed as such.

Q. I don't know whether that is an officer or not, but did you hold any other office except engineer and chemist?

A. Do you mean as director, secretary or anything?

Q. Yes, or vice-president, general manager or anything of that sort?

A. No, sir. I managed all my own business in construction.

Q. I am speaking about the United Gas Improvement Company. You held no position, did you, except engineer and chemist?

A. That is all.

Q. In what cities did you design the mains system?

A. In all those in which I was contractor and in all those in which I was consulting engineer. I was constantly applied to for information with regard to laying of mains and testing of their capacities and advising in regard to new mains.

Q. Did you ever construct a mains system in the City of New York?

A. No, sir. I——

Q. Or in Boston?

A. (Continuing:) I was consulted about it as to what difference they would have to make in the distributing system owing to the gas being heavier than coal gas and what measures they would have to take in regard to it.

Q. Who are "they," you were consulted by whom?

A. The president of the company.

Q. What company?

A. The Mutual Gaslight Company; and Mr. Kennedy and Mr. Leary.

Q. But never consulted about the Consolidated Gas Company, were you, as to the system of mains in New York?

A. Not after the consolidation, and I don't think before, of any account. I talked over it with Mr. Bradley pretty frequently.

Q. A main system was in existence in the City of New
3992 York, wasn't it, at the time you were consulted by the Mutual?

A. Yes.

Q. And any changes in their main system had to do with the difference in the gravity of the gas that would be produced as between the old coal gas and the proposed new process, hadn't it?

A. Yes, sir, exactly.

Q. Have you ever installed a system of mains in Boston or any of the other large Eastern cities?

A. I never installed them, never as contractor or engineer, except giving my advice in regard to the introduction of mains.

Q. Except in the case of the Mutual?

A. On application of the Gaslight Company of America for a charter in Lowell. I designed a system of main distribution, which was not carried out however. And also in Providence, R. I.

Q. It is a very small main distributing system in Lowell, anyway, isn't it, as compared with large cities?

A. Yes, sir, small, but the smaller the system the more ability and more particular you have got to be in devising, for the simple reason that the large mains in a large city give a man freer scope than in a small town.

Q. How about a city like New York or Boston where many of the streets are narrow and crooked and where they are already so filled with subway pipes as to make it difficult or impossible to put in bigger pipes; doesn't that introduce an element of great difficulty in laying a main system?

A. I have no doubt it does. I have examined points where I considered there were difficulties to meet when I noticed openings in the street where I saw a man had to mind what he was about to get mains in.

Q. You say that since 1870 or about that time you have made a study of petroleum products. What has been the cost of naphtha from then down as to price? Hasn't it increased very greatly in price?

3993 A. There have been numbers of fluctuations. It has generally increased. Now it is almost out of the question for gas-making although I see numbers of companies still use it.

Q. To a small extent?

A. Well, the last Massachusetts report shows considerable use of naphtha.

Q. If it is under the head of naphtha and is shown to cost five or six cents it cannot be the good grade of naphtha which we ordinarily include in the term "naphtha," can it?

A. No, sir. It is the crudest form of naphtha.

Q. And so, too, the other grades of oil have a tendency to rise in price, haven't they—the better grades?

A. No. I think in those companies where I have had opportunities of knowing exactly the cost the present prices are very reasonable.

Q. About what they were ten years ago, do you think, for 28 and 34 degree oil? Do you think the prices are now about what they were ten years ago in this section?

A. I never got that any cheaper than 3¾ cents, that I remember.

Q. For what, 34 degree?

A. I did not regard the degree of as much importance as some seemed to think.

Q. In other words I suppose you mean that taking two 34 degree oils, one 34 degree oil may be a very much better oil for gas-making than another 34 degree oil, depending on its composition?

A. In my opinion there is no such thing as a 34 degree oil in existence.

Q. Well, taking what is commonly called a 34 degree Beaume test,

might not one oil of that specific gravity be much more valuable than another oil for gas-making purposes, of the same gravity?

A. It might be on the earlier forms of gas apparatus, but I do not from my experience see any particular advantage in the exact
3994 degree of the oil provided it is not so heavy as to be difficult to evaporate or turn into a vapor.

Q. My point is this, that take two oils which test 34 degree Beaume, one oil may for gas-making purposes by reason of its composition be better than another oil which tests the same so far as Beaume test is concerned, may it not?

A. I do not think there is any essential difference, if you want my opinion as regards what the difference in these oils is really. I find it is the admixture of parafine in the oil which makes practical difficulties in gas-making and not so much the slight difference in degrees of the intermediate oil.

Q. Do you consider that the heavy oils that are now used are as good for gas-making as the old intermediate oil?

A. I consider them just as good if they do not contain any essential percentage of parafine; that is, parafine that solidifies.

Q. Does the present oil give as fixed a gas as the old intermediate oil.

A. In testing for the fixity of gas it is the capacity to stand cold weather, and I contend that there is no substantial difference between them. Naphtha seemed to give a gas that would stand cold better than heavy oils.

Q. When you say "stand cold" what do you mean, that in the cold weather the candle-power is likely to be dropped as the gas proceeds through the mains?

A. Not through the mains essentially. I think the loss is in the holder.

Q. Well, it is dropped between the manufacturing station and the delivering points somewhere?

A. Yes, quite seriously.

Q. Do you consider Texas oil, commonly so-called, as good as the oil used before the Texas oil came into the market?

A. I have only had two years' experience with Texas oil and I did not like it I must confess, but I did not make any change in the apparatus to meet the difficulties and perhaps it could be done.
3995 It gave about ten per cent. less quality of gas for the same amount of oil.

Q. Now, let us take the subject of pressure. You say that you took your pressures on services not in use at the time. Did you read Professor Hallock's testimony that there were three or four other fixtures connected with the pipe on which he made the pressure tests?

A. Yes, there were.

Q. You don't know whether any of those may have been lighted or not, do you?

A. Yes, I think I do.

Q. How do you know? Did you stand there?

A. I went around and looked.

Q. How often?

A. Well, from the fact I gave orders to have burners lighted to clear that large 100-light meter of the gas that was in it in order to get fresh gas, and so I went around to see they were burning and also saw that they were put out.

Q. Are you able to say from your personal knowledge that some one of those jets may not have been lighted up while these tests were in progress?

A. I think the indications of the chart would show if there was anything lighted during the time they were taken, aside from what I drew from the gas. Even lighting one of the photometer burners would show on the chart.

Q. Would make an appreciable representation on the chart, wouldn't it?

A. Such as I could notice. I don't know as a person would notice it that was unaccustomed, but I think all those charts would show where we drew any gas out.

Q. Did you take these pressures inside the main?

A. Yes, sir. That is, on the house pipe side, as we call it, if that is what you mean by inside.

Q. Yes, and did you take them at the burners in each case?

A. For photometrical observations, did I understand you?

3996 Q. I am referring to the ones on the charts which you have introduced?

A. No, the chart was taken from a pipe by itself but it was attached to pipes that supplied the photometers with gas also.

Q. But in some of these tests shown on your charts they were taken about 125 feet distant. Were your tests then made at the burner?

A. Yes, inside the meter on the consumers pipes.

Q. Were they made from the house pipe?

A. Yes, sir. I lighted burners to see how much effect it had on the pressure, to see how much difference it made on the sheet from the lighting of one or more burners.

Q. When you say that you examined your testing apparatus in advance and that it tests within 0.100 of an inch, you cannot make a test of 0.100 of an inch with a water column, can you?

A. No, sir.

Q. How did you test, then, to determine whether the small fractions were correct or not?

A. Well, for instance, on that chart the pen is fine, probably not more than 0.100 of an inch in width, and whenever I noticed a vibration amounting to the width of that line I should judge it was sensible to that degree. I know it is more sensitive than the water column because I saw the hand move when the water column was perfectly steady.

Q. What allowance do you make for difference between pressure in the house pipes and pressure in the mains?

A. That depends on whether they are burning gas or not. If they are not burning any gas at all it would not make any difference.

Q. Does it make any difference how the cock of the meter may be

turned as to the relative pressure in the house pipes and in the mains?

A. Not a bit, if there is no gas burning, unless turned clear off.

Q. Does it make any difference what size of house pipes you have, whether they are very small or very large?

A. Not a particle unless the gas is in motion.

3997 Q. After it is in motion, hov then?

A. The pressure will drop as soon as the gas begin to move.

Q. Was the gas in motion or burning at any time during these tests on the charts which you have presented?

A. At the point on the chart it shovs where the gas was moving, and where it does not show it I consider the gas was still.

Q. If taken at the building with a full service, with a great many gas jets, the difference between pressure at the burner and pressure in the mains might be half an inch, might it not?

A. Yes, even more; and on small ores lower.

Q. What would be the maximum imit of variation would you say?

—. According to the way the house is piped, there might be an absorption of pressure on large consunption and also as indicated on those charts, of two inches.

Q. Now, you stated in reference to tiese charts from time to time that at the points you have mentiond weights were piled on. I suppose you conclude that the weights are piled on by the character of the curve that the pen describes in these charts, do you not?

A. Whenever I come to a point on the chart where there is an abrupt rise in the pressure or an abript fall I know the pressure has been altered further by a governor or valve.

Q. In other words, your conclusions are based upon the character of the curve described, and you have no information other than that?

A. No information other than the clart itself. I didn't need it.

Q. Referring to Mr. Forstall, didn' you construct the plant in New Orleans outside of this coal gas plant to which you referred?

A. A water gas plant. I constructeda coal gas plant in 1872-3-4, and a water gas plant in 1882-3-4.

Q. Were you there until the water gs plant was started up?

A. Yes, sir.

3998 Q. Were you there when it ws started up?

A. I was. I started it myself

Q. You say in referring to these charts that the pressure indication falls with increased pressure?

A. Increased consumption.

Q. You said with increased pressure I think, or else my note is wrong. You mean with increased consumption?

A. Pressure falls as the consumption increases.

Q. Well take the Exhibit KK. sub 2. at Columbia University, October 11, 1906, about 6 P. M. or a ltle before that, the pressure would be increased, wouldn't it, ordinarily?

A. Well, you see——

Q. No, just answer the question. Ordinarily the pressure is in-

creased about 6 P. M. or a little bit before, isn't —, for convenience of use, for business use, cooking and one thing or another?

A. It is increased at the works.

Q. That is what I am talking about. But the pressures seems to decrease as shown on this chart, do they not?

A. Yes, that is the chart.

Q. In other words the draught of consumers, in spite of increased pressure at the works, shows decreased pressure at Columbia University on this date, October 11th?

A. Yes.

Q. Isn't that what you would commonly expect?

A. Always expect that.

Q. Now the pressure——

A. Excuse me. It does not follow that it will be increased above the two inches and a half by any means.

Q. No, but it is increased?

A. Yes, the holder pressure will be lower and probably is a good deal lower at that point, and there the pressure at the holder might be an inch less and still afford a pressure at that point.

Q. On account of the greater elevation of Columbia University?

A. Yes, sir.

3999 Q. Now we have the Columbia Printing House, Exhibit KK, sub-1, on the same date, October 11th; did I understand you to say that the drop just before 6 P. M. in pressure on this chart was due to consumers lighting a jet?

A. One burner.

Q. One burner then lighted has pulled the pressure down something like two-thirds of an inch on this chart, has it?

A. Yes, sir.

Q. And when a second burner was lighted it brings the pressure down say one-third of an inch more, a little after 6 P. M.?

A. Yes, sir. That is the obstruction of meter. The meter is working hard.

Q. In other words, those two burners, as I make it out here, reduced the pressure about an inch and a quarter, didn't they?

A. In that particular case. Ordinarily it would not affect it but slightly, but the meter being out of order or stiff it moved down.

Q. Did you examine the meter to find if it was out of order or stiff?

A. I didn't have to. That is a perfect indication.

Q. Did you examine the meter to find if it was out of order or stiff?

A. No. I will say it is not absolutely certain; that there might be another cause; it is altogether probable the meter was the cause.

Q. That is your conjecture from what this shows?

A. Yes. I should always take it to mean that the meter was out of order.

Q. But it might be due to the other cause, you have said?

A. Very remotely.

Q. Do I understand you to express the opinion that those two curves on State's Exhibits Sub-1 and Sub-2 are identical except as to the average?

A. Yes, absolutely.

Q. Do you think they are absolutely identical?

A. Same holder.

Q. Now do you know how far from this 125th Street place, which was on a Standard Gas Company's service, there is
4000 any connection between the Consolidated Gas mains and the Standard mains?

A. I have not any other evidence than that, but that is absolute to my mind, that there is some connection.

Q. Supposing you found that there was no connection within ten blocks between the main that goes to Columbia College and the main that goes to 125th Street, no connection within ten blocks of the 125th Street place, does that make any difference in your conclusions?

A. No, not if it was fifteen or twenty blocks away.

Q. You think then such a remarkable concurrence between the locations in these two sheets KK, proves that the same pressure produced it?

A. It relates away back to the holder itself. When you come to superimpose them in the right manner, you will find the curves are absolutely identical. Take this point where there is change of pressure in the holder and then run your eye along that line by superimposing them.

Q. I do not find it any more identical with my eye than in the other curves you have produced here.

A. Have you looked at it in that manner (superimposed)?

Q. Yes, I did. I think it shows for itself, however. You do not need to proceed further with that.

A. Yes. It shows for itself.

Q. Do you know whether there was any jet lighted at this printing house at 125th Street?

A. No, sir, none there. I made an arrangement with a man to keep them turned off and the indication on the chart on subsequent dates shows he did it.

Q. Well, taking Exhibit KK, sub-1, it would appear as though if another jet had been lighted about six o'clock P. M. the pressure would have been reduced to zero, wouldn't it, at that same ratio?

A. That is so.

4001 Q. Taking the whole thing. What would have happened then? Would the lights have gone out?

A. You would probably have heard from them at the office.

Q. What would have been the effect if you lighted one or two more jets which would reduce the pressure to zero; would that make one or more of the jets in danger of extinguishment?

A. No, they would not be both extinguished; just simply die down. There would be some gas coming through, enough to keep the light on.

Q. But they would be reduced to such proportions that they would likely to be extinguished by any draught, wouldn't they?

A. The lower you turn a burner down the more apt it is to blow out.

Q. Yes, I know; but assuming the proportionate rate of reduction

in pressure was continued at 125th Street, at the printing house, by the lighting of perhaps two more jets, which would reduce the pressure pretty nearly to the zero point, if not quite, according to your chart, then would it not be true that the flame would probably be reduced to such small proportions that it might easily be extinguished by a draught?

A. Yes, I think possibly it might.

Q. Now, in State's Exhibit LL, taken at the Columbia Printing House, 125th Street, and Columbia University, October 12th, do I understand an identical character in those curves which must indicate that they come from the same holder pressure?

Mr. KIRBY: He stated he did not, on his direct.

Mr. MATHEWSON: He stated that he did on his direct, according to my notes.

A. No, there is no coincidence there at any part.

4002 Mr. KIRBY: That is in accordance with his direct testimony.

Mr. MATHEWSON: I think he did start to make a coincidence and then withdrew from that position. I think that is the fact; I remember it now.

Q. Now, let us take the Grand Union, on August 17th and 18th, Exhibit MM; that appears to go substantially above 2½ inches, doesn't it?

A. Yes, it goes above two and one-half inches, but the weight of it has been put there by the gas company.

Q. How do you know that?

A. Right there you can see it as plain as day.

Q. You can see it rises on this chart, can't you?

A. It don't rise itself, it is by letting on more gas.

Q. This is about nine A. M. the rise begins, eight or nine A. M.?

A. No, it is seven o'clock P. M., quarter past seven the rise began.

Q. Yes, that is right. What is the effect on pressure in the mains of the shutting off of gas ranges which largely operate between six and seven o'clock in the evening, we will say, if you maintain pressure at the works?

A. The effect of shutting off any consumption o' gas is to increase the pressure.

Q. So that if it be true that gas ranges are largely in operation from half past five to seven in the evening and they were shut off, or many of them, or part of them, by seven o'clock, it would tend to increase the indication of pressure for the balance of consumers, wouldn't it?

A. That has nothing to do with that.

Q. Wouldn't it?

A. Yes, but it is entirely apart——

Q. It may be but that is another thing. Do not argue with me. This rise in pressure may be due both to the shutting off of the gas ranges and to an increase of pressure at the works, might it?

4003 A. Yes, it might.

Q. And this, you understand, is the Standard Gas Company at the Grand Union Hotel?

A. I inferred it was from the character of the chart and the way the pressures are handled. I did not ask the man for his bill or did not take any measures to find out whose gas it was, but as soon as I saw the chart I made up my mind it was the Standard or some other company, not the Consolidated.

Q. Now, in short, isn't it true that the pressure at different points of a main and at different services changes frequently while the pressure at the works may remain exactly the same?

A. Certainly they will change. They endeavor to meet them at the works.

Q. In other words, changes of consumption over which the company has no control would make changes in pressure at different points of the mains if the company maintained a uniform pressure at the works, would it not?

A. Yes.

Q. How could the company correct any changes due to changes of pressure on account of draughts of consumers except by greater pressure at the works?

A. That is the way to do it, by so arranging the pressure at the works as to meet the conditions in the mains. That is the important point.

Q. Now, let us take State's Exhibit NN showing pressure at 3607 Broadway, October 13th and 14th. Was that a Saturday, October 13th?

A. Saturday and Sunday, I believe. There are two cards there, two sheets.

Q. I see only one here.

A. They have become detached.

Q. Yes, there is another, State's Exhibit OO, October 14th; the difference in pressure at 6 P. M. seems to be very marked between Sunday and Saturday, does it not?

A. Yes, sir.

4004 Q. What would that be due to, difference in pressure at works or difference in consumption?

A. Due to the difference in consumption there.

Q. What would these great irregularities in the chart of October 13th indicate?

A. That is the consumption inside the building, a shortage of pipe, deficiency of pipes within the building undoubtedly.

Q. You don't know whether that is a new or an old building, do you? I see your tests are made on the fifth story?

A. I don't know. It has insufficient piping, that is evident, within the building.

Q. Would not a very heavy draught within the building due to a large number of burners have the same tendency to reduce the apparent pressure as the small piping with fewer burners?

A. Yes.

Q. Now, take No. 1 Platt Street, October 15th, 1906, State's Ex-

hibit PP—you say that a gas engine was started. How do you know that there was a gas engine started there?

A. In the nature of those fluctuations, I do not attribute that to a gas engine; it might be due to some form of a suction of gas off the pipes as I found frequently inside of a building; they will put some form of blower on to draw the gas off and make such an effect as that, but it is violent oscillations of pressure.

Q. Would not the same answer apply to the blurred line shown on State's Exhibit PP, sub-2, October 16, 1906?

A. That is one of those I noticed of the gas in the neighborhood bobbing from water in the mains and I think that was the case there.

Q. You think that was so, but don't you think that the company would have been likely to have received a complaint provided there had been water in the mains to that extent?

A. I asked some of the customers along there and they said they were used to it. I asked in a cigar store why he did not complain and he said it didn't bother him much. It was bobbing and would bother him considerably, I should think, and I asked him
4005 how long it had been going on and he said ever since he commenced to light up in the fall, but he didn't care.

Q. It didn't bother him enough so that he cared?

A. It didn't bother him enough to make him care about it.

Q. Now, you made certain fragmentary tests which you did not complete. Why were they not completed?

A. Well, those tests were marred by drawing off gas in the university and pumping and performing experiments on gas pressure, and required so many explanations to state what was going on there that I thought there would be no use of putting them in.

Q. Have you those fragmentary tests here?

Mr. KIRBY: They are in my office.

A. They are simply where the record is marred by having pumps going there to compress gas, and various other experiments we were making, and it obscured the real design of finding what the pressure in the mains was so I left them out.

Q. Were all these fragmentary tests made at Columbia University?

A. All made at Columbia College. All the rest were put in. I didn't exclude any except those where we were experimenting on pressures.

Q. Will you bring those down at the next session or let Mr. Kirby have them?

A. Yes, certainly. It will show just what we were doing.

Q. Now, as to there being a gas engine started up or there being water in the mains, the remarks you have made in reference to State's Exhibit PP would apply to State's Exhibit QQ, would they not?

A. Yes, that was water, it is drawn down here, or using a furnace.

Q. Drawn down where?

A. There at that point (indicating).

4006 Q. Well, that is to say, No. 2 Platt Street, October 18, 1906, on State's Exhibit QQ sub-2; the draw down being about what time of day?

A. Well, this is previous, October 17th at 3 P. M.

Q. It began at 3 P. M.?

A. No, but I say I took that off at 3 P. M. and undoubtedly I put this other sheet on at the same time. This was the 3 P. M. line here.

Q. In other words, the 18th started about 3 P. M., did it?

A. Yes, sir.

Q. Shall I put 3 P. M. there?

A. Hold on, I want to be positive about that because sometimes I could not get in that place. You have separated these sheets; that is not the same.

By Mr. KIRBY:

Q. Do you mean you have marked that one incorrectly?

Mr. MATHEWSON: They are both Exhibit QQ, aren't they, one being sub-1 and the second being sub-2? Let us have this corrected if there is any mistake about it.

The WITNESS: This should be No. 1 Platt Street. I know absolutely this is No. 2B Platt Street for the reason—QQ 1 and 2, they are both No. 2 B for I asked the man what he had been doing to draw that down there and he said he used a furnace to warm up in the morning and then I got him started and he drew this down for me to show how it occurred and he set his motor going and made a blast and it made a suction of the gas on the pipe and I looked at the meter to see the capacity of it because he was burning a large amount of gas and it drew that down, so I know that this and that are the same because this performance takes place in the evening.

4007 Q. What is the beginning of the second page of QQ, what hour?

A. You can deduce it exactly from here. That movement there takes place at the same time.

Q. If you left off at 3 P. M. doesn't it begin on the next sheet at 3 P. M.?

A. No, I think not, because he told me he had put this on here to warm up his building in the morning, to take the chill off.

Q. How is it possible, if you have them consecutive, that it does not fit on? You didn't have a half a day there in that test which appeared on another sheet and which you omitted surely?

A. I remember at that time I had considerable difficulty to find a place that had Consolidated gas and this man locked up and went away about 5 o'clock and it interfered with putting the sheets on regularly, but those two motions of the pen there are identical, I think.

Q. That is merely a matter of reasoning from these two sheets and they do not seem to me to be identical so I do not think I shall ask you to speculate.

Mr. KIRBY: Have you anything to show what time you put the second chart on?

The WITNESS: Nothing more than the chart.

Q. Now, let me ask you did not the putting on of this stove——

A. Furnace.

Q. Well, whatever you call it—you do not mean a furnace to heat the entire building, do you?

A. It was a furnace that he used to take the chill off.

Q. Putting on the furnace to take the chill off, reduced the pressure there more than an inch, didn't it?

A. Yes, sir. It was urged by a power blower, however, or suction.

Q. Will you look at State's Exhibit SS, Broadway Jewelry Store fronting Battery Park, November 5th, 1906, and state what
4008 this smooch is at the bottom about 9 P. M.?

A. That is where the boy brought the instrument down and the pen was left on the paper and in moving it jarred it.

Q. What boy?

A. Some boy that brought the instrument to me, I don't know his name.

Q. You mean after the test had been completed?

A. It had not any reference to the pen. The pen happened to be at that point.

Q. This does not cover an entire day, does it?

A. They shut that off themselves; it covers from 5 P. M. to 9 A. M. in the morning. The occupants of the building shut that off.

Q. In whose charge did you leave that, the boy at the jewelry store?

A. No, I left it in the charge of the proprietor. He said he would not touch it, but it seems he wanted to put his gas heater on and he thought it would be a good idea to shut it off. However, the test was continued on that day.

Q. On the back of this State's Exhibit SS?

A. Yes.

Q. Now I find that substantially every one of these tests at Columbia University, being State's Exhibits JJ Sub 1 to Sub 16 show the pressure above 2½ inches at one time and another; that is correct, is it not?

A. Yes. They put it up at the works; that is easily enough remedied.

Q. And you have stated it as your opinion upon the strength of these tests among other things that it is possible to maintain a pressure between 2½ inches maximum and one inch minimum in the mains of the City of New York. Have you ever operated a gas plant in the City of New York?

A. No, sir.

Q. Have you ever operated a gas plant in the City of Boston?

A. No, not in the City of Boston.

Q. Have you ever operated a gas plant in any of the great eastern cities like Baltimore, New York, Boston, Buffalo, where you
4009 meet the conditions of temperature and elevation which prevail in New York City?

A. No, sir, I have had just the same conditions, the same kind of

weather and same elevation, one place the same as another, 100 feet——

Q. You have taken these tests, some in August, some in October——

Mr. KIRBY: One in August.

Mr. MATHEWSON: I think there are two marked August.

The WITNESS: Only one.

Mr. KIRBY: Only one marked Grand Union Hotel.

Q. Well, one in August, and mostly in October and one was within the last day or two. Do you not know that in New York City the differences of consumption and conditions in winter as compared with those in summer and fall make it very much more difficult to maintain a uniform pressure in winter than to maintain it in the summer months or early fall months?

A. There is more difficulty with the summer months, but not with the fall months.

Q. You think it is just as easy to maintain a uniform pressure or a pressure within uniform limits in the winter as it is in August?

A. No, not in August?

Q. Well, as it is in October?

A. Yes.

Q. Don't you know that the variation in pressure appears to be very much greater in the winter months than it is in the fall month of October?

A. No.

Q. And have you proceeded on that theory in stating that the Company could maintain a pressure within the limits specified in the law, that there would be no more difficulty in the winter
4010 than there would be in October in maintaining a uniform pressure?

A. Just——

Q. (Question repeated.)

A. I will say in the latter part of October, as soon as the lighting hours become coincident with the time of gas cooking and small heating devices, that the pressure draft would be the same.

Q. You proceeded on that assumption in forming your own views, have you?

A. Yes. I find the same elsewhere.

Q. You proceeded on the same assumption in New York .

A. I think that the draft on the mains would not be any more in a December night than it would be in a November night provided that the various devices were in operation. In fact, there would be more heating devices in operation in November than there would be in December in my opinion.

Q. Then the consumption of gas ought to be as great in October as in December, had it not?

A. It ought to be per hour, per maximum hour.

Q. And you think that the concurrence in winter of one very cold and very dark day with the following day bright and much warmer would be a condition which you might find in equal degree in October, do you?

A. I do not see any difference.

Q. And you have stated that changes of pressure may occur in the mains with no change at the works and you have also said that the Company can care for variations of change in the mains by changing the pressure at the works. What indication will there be at the works of the Company to show the need of change of initial pressure at the works?

A. Well, there will be a slight fall of pressure at the works every time there is a larger draft outside of the works, that ought to indicate to them that the main indication is to be derived from just such things as these charts. They want to take charts and find out.

4011 Q. They cannot stop and go out and take charts at 125th Street, can they, when they are keeping up the pressure at 111th Street, they have got to respond to the pressure as the requirement shows itself at the works, haven't they?

A. Well, the differences from day to day would not be so great but what the charts would indicate how they ought to govern the gas at the works.

Q. Do you mean to say that one day's pressure taken on charts of this kind at 125th Street would indicate exactly how they ought to regulate pressure every other day or for a considerable number of days thereafter?

A. If taken at a time when the gas consumption was likely to be at its maximum, yes.

Q. And then they ought to keep the pressure up to the maximum requirement?

A. They ought to keep it up to the requirement. There is no need of any such pressure as shown on the Columbia chart.

Q. But you say that might be with a pressure at the works of only an inch or an inch and a half?

A. I should say not an inch but an inch and a half, I should think the works would afford that pressure.

Q. Do you mean to say by taking a chart of that kind and taking its indication for one day at 125th Street it would be possible to regulate pressure at the works thereafter on the basis of that chart without regard to the question as to whether subsequent days were darker at an earlier hour, and required a consumption beginning earlier and things of that sort?

A. That should be taken into consideration.

Q. How can you take it into consideration except by manipulating your pressure at the works as the indication occurs at the works of draughts on the mains?

A. The indication at the works is while—every time there was a large draught on the main the indication at the works also showed some slight indication, but not as definite and not giving the

4012 exact information that a series of diagrams would give. I would not necessarily confine myself to one diagram. I should take several. I see those diagrams have great uniformity, and all they had to do was to pull down the pressure in the main to comply with the law.

Q. You don't know what the pressure was at any time between the points where you took this pressure and the works?

A. On the chart there—there is a diagram near the works showing they did pull down.

Q. And you found when they pulled down that a man put on two gas jets and his pressure went down seven-tenths of an inch

A. No, I am not referring to that chart, but to a chart taken near the gas works. I took a chart near the gas works to find out whether they had to keep their pressure above or below the line in order to give it at the distant point.

Q. Well, what about the pressure at the distant points, what about the pressure at a greater distance from the holder than you took your readings, that would naturally fall, wouldn't it?

A. Yes. I have taken them at points most likely to be affected, however.

Q. Were the Grand Union tests taken any nearer the works than 125th Street, so far as the Standard Company is concerned?

A. I don't know the distance from the Grand Union to the Standard holders or point of supply, but I do know they could have pulled that excessive pressure down readily enough.

Q. Didn't you say the Grand Union was nearer the source of supply in your direct testimony?

A. I don't remember that I stated it was relative to the source of supply. I don't remember stating that.

Q. Well, to the works?

A. It is nearer to some of the works but I don't know what.

4013 Q. Do you know whether it is any nearer the Standard works than the place at 125th Street?

A. The Grand Union is on 42d Street and there are works on North River and 42d Street.

Q. You understand those are the Consolidated Gas Company works, don't you?

A. I have not absolute certainty that that was the Standard, but I took it from the diagram that it was the Standard works for the reason that it was governed by a governor exclusively during the night.

Q. The Standard meter, did you observe that?

A. No, I did not look at the meter in that case.

Q. Well, if it be true that the Grand Union is not any nearer the Standard works than 125th Street, your reasoning based on this theory would not apply, would it?

A. I did not take much account of the summer sheets and I did not continue them for the reason that I considered that they would not be of much account in this case on account of the small consumption, so I dropped it.

Q. Will changes throughout the district furnished by gas from one distributing station vary uniformly?

A. I observed considerable uniformity in regard to the maximum draughts, on account of as soon as it is dark in November it is just as dark as it is in December. I don't see that it makes any essential difference whether a dark hour occurs in October or November or December. You have got to light up in each case.

Q. Well, but don't you understand in colder weather you may have

gas ranges and gas logs and other things going which you will not have going in October?

A. My experience has showed me that there is more gas consumption for heating in the first cold weather than there is when you get settled cold. That is my experience. When you get settled cold you use coal for heating.

Q. How did you know that this place at No. 1 Platt Street
4014 consumed Consolidated Gas?

A. I looked at the meter and saw Consolidated Gas Company property on it or something to that effect.

Q. And the same at No. 2-B Platt Street?

A. No, No. 2-B I referred to. No. 1 I don't think was Consolidated.

Q. Wasn't it Mutual ?

A. I think possibly it was. I don't think it was Consolidated gas for it did not bob with the other. I found there was two gas supplies there, one of which had water in the pipe and the other had not, and I knew there must be some different line of pipe and therefore in the case of No. 2 Platt Street I went and looked at the meter and found it was Consolidated Gas Company's meters.

Q. You understand, don't you, that the Consolidated Gas Company has mains and supplies gas in every street in Manhattan that is opened, including all those in the outskirts as well as those in the thickly populated sections?

A. Yes, I suppose they have.

Q. And you understand that the Mutual and the Standard and the other gas companies confine themselves largely to the more densely populated sections of the city and do not extend to these outskirts streets, or don't you know that?

A. I know the Manhattan Company and the Metropolitan had extended their pipes very much over the city and the new companies arranged to take the new consumption, and I suppose did not extend their pipes so far.

Q. You don't understand the Manhattan extended its pipes to 155th Street and Washington Heights or around there?

A. Within the district that they supply.

Q. I know that. I am talking about Manhattan Island. Now, you say you have made certain tests on heating apparatus, and
4015 you find the greatest efficiency in a flat-flame burner to be considerably below one inch?

A. Yes.

Q. Did you read Professor Hallock's affidavit in this case where he quoted Doctor Chanler?

A. Yes, I think I did.

Q. Don't you remember his referring with approval to Dr. Chanler's statement as to the variation in pressure?

A. I think that was based on some peculiar burner that Dr. Chanler used.

Q. Well, it does not appear that it was a peculiar burner, does it, from Professor Halleck's affidavit?

A. No, but it does from the test.

Q. Well, whatever it was, it appears by Dr. Chanler's affidavit, if

Mr. *Mr.* Hallock quoted it correctly, that Dr. Chanler found the greatest efficiency at about an inch and a half, didn't he?

A. Yes, that was evidently a check burner. There is no question about that.

Q. Well, whatever kind of a burner it was, that appeared to be the result, did it not?

A. Yes, I got the same——

Q. Now, as to your experiments with the Welsbach burners, did you try the Kern burner?

A. I used the Kern burner very satisfactorily. I did not try it on this case.

Q. Does not that require a pressure of at least two inches for great efficiency?

A. The Kern burner is constructed on the principle of an exhauster or jet that would give probably a better result at a higher pressure, but it requires low candle-power gas for it. It is not really proportioned for our gases, and for that reason I dropped it out.

Q. Do you mean that the present gas furnished in New York City will not operate the Kern burner satisfactorily?

A. They give a good light but will not give efficiency as compared with the Welsbach for high candle-power gas, surely for the——

Q. For the burning of the same number of cubic feet?

4016 A. No, it will not give the efficiency unless they have altered it within a short period.

Q. But you did find for the Welsbach according to the charts which Professor Hallock presented here, that the greatest efficiency for them was something over two inches, did you not, something like 2.35 inches pressure in one case?

A. According to Hallock, no, I did not find that. I found just as good results with one inch as with higher, by careful adjustment, by watching the photometer; I adjusted by the photometer, you might say, by means of adjustments which consumers could not avail themselves of.

Q. Do you mean you adjusted it from time to time as it was burning?

A. I adjusted the gas and air supply relative to each other by watching the effect on photometric screens to get the maximum light.

Q. You never tried to cook by a gas stove, did you, with the pressure at one inch or under?

A. I have seen cooking done all over town and in towns where they had at the stove less than three-quarters of an inch and it was all——

Q. Did you test it youreslf to find out what pressure they had at the burner?

A. Yes, went all around, went all over the city.

Q. Satisfactory and effective cooking and baking, was it?

A. No, it was not satisfactory in one sense, but it did the business.

Q. If you took time enough?

A. It gave ample heat. The only thing was that it required large pressure to heat them through their small pipes, and therefore, they had to put in additional supply pipes. It was a case of deficient house pipes.

Q. When you say that in your pressure tests for gas stoves you took the pressure at the stop-cock apparatus, was the pressure back of the stop-cock?

A. No, between the stop-cock and the jet.

Q. Is not the important thing, in determining the pressure
4017 that the Company is supplying, the pressure back of the stop-cock?

A. That is the point so far as the Company is concerned, but the point for testing whether the gas stove will work, at what pressure it is actually working, is taken between the stop-cock and the jet. That is the real pressure on the stove. The other is controlled by the stop-cock.

Q. If the pressure is the same back of the stop-cock as you found in front of it, would it work efficiently?

A. It would work the same if the stop-cock was fully open and regulated further back.

Q. But it would have to be regulated back somewhere?

A. Yes.

Q. You would not expect the same pressure back of the stop-cock all the way back to the main or the Company's works that you get in front of it, would you?

A. That is the way I tested it. I put on an additional stop-cock back so as to open full pressure on the stop-cock of the stove.

Q. Is not the needle and wheel apparatus which you said took two inches the apparatus ordinarily in use in stoves in the City of New York?

A. No, I think not. I think on the contrary it is the stop-cock. All I have seen have been stop-cocks. I have not seen a single needle valve stove in use. When I looked in the Consolidated Gas Company rooms on 42d Street, I did not notice them there. I approve of that form and was rather surprised not to see any.

Q. Does it not make a difference how large the burners are or how many there are in use in a gas stove as to pressure?

A. It makes a difference as to the size of pipe required to the stove, yes.

Q. I am talking about the ordinary size of pipe which you find in the ordinary stoves?

A. The pipe should be large enough to not draw down unduly.

4018 Q. That is not the question.

A. What was the question?

Q. (Question read as follows: Does it not make a difference how large the burners are or how many there are in use in a gas stove as to pressure?)

A. The pressure on the stove stop-cocks or valves will go down according to draft. If you have one burner lighted it might draw down one-tenth and two burners might draw down two or three-tenths, according to the size of them.

Q. When you say that between an inch and two and a half inches you can regulate pressure as well as at any other limitation, you mean regulate it where?

A. Either at the stove or at the burner. But it would be better to restrict the variation in the house-pipe pressure to a less amount than an inch and a half. That is a very large allowance I think.

Q. If you have pressure sufficient at the meter or if it is too great you can reduce the pressure, can you not, either by turning the stop-cock at the meter or by turning your keys at the burner.

A. The stop-cock at the meter would be a very poor regulation.

Q. Well, it could be done, could it not, if you wanted to reduce it to a certain flow?

A. In my experience I have heard that proposed but I never saw anybody—never knew of its being carried out satisfactorily, for every time you light an additional burner or when the pressure varies outside it would require you to go down and regulate the stop-cock again.

Q. If you regulated it to a minimum point or to a point where it would be sure to let through all you required, you could regulate it within those limits at the meter, could you not?

A. If you had exactly the same number of burners going in use you could.

Q. Assume any number of burners you please, you could regulate at the meter the amount of gas which might be required for a
4019 particular number of burners, could you not?

A. For one given number of burners, yes, that is, in use.

Q. In other words, if there was a constant excess that excess could be cut off at the meter cock, could it not?

A. Not satisfactorily.

Q. Well, it could be cut off there, could it not?

A. I have known it being tried many times, but I never knew of a satisfactory regulation at the meter cock.

Q. Don't you think it could be as satisfactorily regulated at the meter cock as it could be a mile or two miles away at the company's works?

A. Not by a good deal. The variation on the company's mains is what requires regulation, and the other will regulate itself if the main pressures were regulated.

Q. Well, it would not be satisfactory to regulate it at the meter cock because there is not that constant excess to which you have testified. Is not that the fact?

A. The meter cock will stay right at one spot and it is, in my opinion, impossible to regulate any varying consumption at the meter cock.

Q. That is just the point, this is varying consumption, but the question I am asking is this. If the excess pressure were constant and did not vary in the mains on account of consumption, then you could regulate the supply at your meter cock, could you not?

A. The burners remaining the same number in use, yes, if you had just the same number of burners in use and the pressure on the mains or at the meter cock remained the same you could bring it down at the meter cock.

Q. You cannot expect the company to regulate the number of jets which shall be used in any house.

A. I expect them to regulate the pressure at which they are used——.

Q. If there is not pressure enough to deliver to the consumer the amount of gas which he requires and no pressure fitted for
4020 the efficient operation of his apparatus, there is no way he can get it, is there?

A. Enlarge his pipes.

Q. Assuming his pipes are of reasonable size to begin with?

A. In my experience that is just where the trouble is. They put more consumption on the house pipes than the house pipes are fitted for.

Q. You don't think the companies ought to take that into account at all in delivering gas to the tens of thousands of buildings in New York City, do you, but ought to deliver pressure exactly as though all the house pipes were large enough, is that right?

A. All companies have rules and regulations about house pipes and ought to see them carried out, that is sure.

Q. But the company has not any regulations as to house pipes that you know of in this City, or any power of enforcing the use of house pipes?

A. Yes, sir, it has. There is just where the trouble is.

Q. You think it has?

A. I am certain every company has.

Q. Will you point out any regulation in the laws of the State of New York which has escaped my notice, providing that gas companies may regulate the size of house pipes?

A. Yes, sir; through their inspectors they have absolute control of it and assume it always.

Q. Will you point out to me the statute which gives them the power to regulate pipes in the City of New York?

A. It is in their own rules and regulations.

Q. Oh, well——

Mr. KIRBY: He says the company has rules and regulations in regard to house pipes.

Q. I want you to point out to me any power existing in the gas company by virtue of the laws of the State of New York to
4021 regulate the size of house pipes. Now, can you do that?

Mr. KIRBY: The witness is not a lawyer.

A. I don't know the laws but I know as a matter of fact they would not turn on gas on inadequate pipes knowing there would be dissatisfaction.

Q. You don't know what the requirement of the laws of the State of New York is as to the company's being compelled to deliver gas to the consumer along the line, do you?

A. I know that in regard to a great number of companies——

Q. Do you know anything about the laws of New York in that regard?

A. I don't know any specific directions of the law requiring them to furnish gas to inadequate piping. I should think it would be a very crude law that would do it.

Q. Don't you know that great numbers of the buildings in the City of New York were constructed long before the use of Welsbach burners and gas stoves came in?

A. Yes, sir.

Q. Now, do you know of any ideal house piping scheme that provides for each 1-10th fall in pressure for fifty feet?

A. I know of lots of adequate house piping schemes and have seen them carried out, too.

Q. Would it be your advice that the house piping of the City of New York should be done over again wherever the pipes are not of large size and that the company should refuse to supply gas until that is done?

A. They don't require to be done over again. It requires merely an adequate pipe taken from the supply to, for instance, the cooking stove or——

Q. Is it your view in making up your mind on this that the company has any right to shut off gas to a consumer so long as the consumer pays his bills, no matter what the size of the house pipes is?

A. I don't know how that is, I should shut them off until they supplied sufficient pipes.

4022 Q. Well, you would get into a great deal of trouble if you did, I can assure you of that, from experience.

A. I would not think they would compel me to put a pressure on to those which were inadequately piped.

Mr. KIRBY: This seems to me to be entirely outside the line of cross-examination.

Mr. MATHEWSON: I do not think so. He suggests a scheme for house-piping, and we want to find out how it would work.

Q. You said that a blow-pipe action may run a Welsbach to three times its ordinary efficiency. Is not the principle of the gas stove such that the same action would increase the efficiency of a stove?

A. Not noticeably, no. The pressure is too light there. If you increase the pressure until you did that, that blow-pipe action might shorten the flame and increase the intensity of it. That is observed in all sorts of blow-pipe appliances.

Q. It depends does it not, Mr. Edgerton, a good deal on what kind of a burner you use, whether you can get the highest efficiency under one inch or above one inch, even so far as flat-flame burners are concerned?

A. The point of highest efficiency in all flat-flames I have tried is one tested at the point of ignition and is almost identically the same. I should not think it differed to the extent of a fiftieth of an inch.

Q. Not even if it is a check burner?

A. Of course the check burner does not give the pressure at the point of ignition. It is restricted there.

Q. In other words you reduce your pressure by the check?

A. Yes.

Q. And in that case you would get just as good a result with the

pressure in the main at 2½ inches as you would with an un-
4023 checked burner when the pressure in the main was an inch, would you not, if you checked it properly?

A. You could but the loss of efficiency would vary with the pressures in the same manner as it does with the unchecked burner. It does not put the consumer in any better position so far as fluctuations of pressure are concerned.

Q. You cannot furnish any system, can you, where the consumer of gas upon a system of mains like New York City will always maintain a uniform pressure at his burner, if he depends upon any possible pressure that the company may put on at its works?

A. You can. Over in the City of New Orleans I put the highest fluctuations at less than five-tenths of an inch.

Q. I am not talking about the amount. I say there is no possible system in view of this differing draught of consumption upon the mains of a company by which if the consumer leaves his apparatus open he will at all times have a uniform pressure at his burners, is there?

A. I think there is just such a system.

Q. So that he will have an exactly uniform pressure at his burner all the time?

A. Within a very small variation, yes, sir.

Q. Well, there will be some variation, will there not?

A. Very slight. It is not necessarily large. I have seen——

Q. But there will be some variation, will there not?

A. A very slight variation.

Q. Do you mean to say, Mr. Edgerton, that you think there should be no regulation of pressure at all between the works of the company and the tips of the consumer?

Mr. KIRBY: He has not stated that.

A. I think where there are great differences in elevation that there should be district governors, certainly.

4024 Q. Well in buildings, high buildings, there will be a great difference in pressure between the first and upper stories in that case, will there not?

A. Yes, not great, but——

Q. And will there not be a different pressure practically for every consumer in the district, if there is no regulation by any consumer between the works of the company and the burners of that consumer?

A. There would be a difference in pressure, considerably, in a very high building, but if it was a uniform pressure it would not make much difference because he could adjust *to* it.

Q. And would not it be true that the consumers nearer the works would get a higher pressure than the consumers at the farther end of the district, the consumption remaining uniform?

A. They might have a higher pressure and probably would.

Q. So, would it not be true that, taking a district, if there was no regulation between the works of a company and the burner of any consumer, the consumers as between themselves would all have varying pressure?

A. Not by a proper regulation at the works, there should not be but a very small variation. I have seen it regulated during the burning hours two-tenths or three-tenths of an inch at times.

Q. Oh, at times. That is another proposition.

A. Well, I mean at times when it was difficult to do so. I mean at a maximum variation. I could point out places where it has been regulated within that.

Redirect-examination by Mr. KIRBY:

Q. You have testified in reference of these charts that certain of the readings were made when there was no gas being taken from the pipes to which you had your instrument attached and that in those instances the pressure readings show the pressure in the service mains with the exception of such allowance as might have to
4025 be made for difference in elevation between the service main and the place where your instrument was placed. In other readings the charts show a variation, in some instances considerable. And these you have stated to have been occasioned by one gas jet or two gas jets being lighted, in other words, the gas being drawn from the main. Is it your opinion that such a change in pressure as is indicated on the chart from that source is due to the interposition between the service main and your instrument of the meter and the house pipe and if there were a branch pipe; in other words, of everything between the service main and your instrument?

A. Yes, those variations that I note on the charts, some of them abnormal by reason of some obstruction in the meter, are all caused by interferences of that kind. There is no variation there, that is, of any serious amount, caused by variation on the street main. All those ups and downs of large extent are by reason of small house pipes or stiff meter or water in the pipe.

Q. That is, in Chart KK-1, at the hour around six o'clock there is a fall of quite a fraction of an inch noted upon the chart. In your opinion, would that apparent decrease in pressure have registered if your apparatus had been attached directly to the service main?

A. No, that is due to the obstruction caused by the meter being out of order or some other obstruction of that kind.

Q. That is, to some resistance between the service main and the point where your instrument was attached?

A. Yes.

Q. You have stated in your opinion the Consolidated Gas Company could use such charts as these in an effort to better regulate its pressure. Do you mean by that that these charts taken at frequent intervals would be a means of indicating what the pressure would be at any particular point, whether it was uniformly high or uniformly low, and therefore whether the pressure in that dis-
4026 trict could be governed by means of the pressure recorded on the chart?

A. Yes, we use those charts as a means of finding out not only whether the governing is accurate or whether it is deficient and also as to whether the mains are adequate. Now, this chart here, Exhibit KK-2, would indicate that the pressure could be cut down, well, say, half to three-quarters of an inch without causing any trouble with

consumers. And that the maximum line running above the two and one-half inches could be kept well within it. It is a question of regulation there. Now, its effect on the lower customer by pulling it down would be inappreciable except for the resistance of his meter or some obstruction in the pipes there. Half an inch could be cut off of the lower point without interfering with the efficient use of gas. And that half an inch taken from the higher point would bring it well within the two and one-half inch maximum.

Q. And so from an observation of that chart, or by a series of charts at the same point, the company could determine whether or not it would be advisable to increase or decrease the pressure so as to keep within one inch and two and one-half inch limits?

A. Certainly, they would be a guide to accomplish it. I am surprised that they have come so close to it as they have.

Q. You have spoken of the maximum hour. What do you mean by the maximum hour?

A. The maximum hour is equivalent to the peak of the load, that is, the hour during which the maximum amount of gas is flowing in the pipes or from the holders.

Q. This might or might not be upon the day of greatest consumption, might it not?

A. No, it might be wholly apart from the day of greatest consumption. The December consumption is great simply because the hours are lengthened, not because there is more gas being consumed in any dark hour of December. In fact, the maximum hour might fall and probably in New York, would fall in Novem-
4027 ber. It would fall at the time of the maximum demand for these temporary heating apparatuses, such as gas logs and stoves, which would not be used in the severe cold weather.

Q. Mr. Mathewson has asked the Master to look at charts KK-1 and KK-2. Will you point out to the Master what you consider are the variations in those two charts which are same?

(Witness here explains to the Master).

Q. Reference has been made to your connection with the New Orleans Gas Works and the installation of the water gas plant there. Did you operate that plant?

A. Yes, sir; I operated it for about six months and was in consultation with the operation for a period of two or three years afterwards.

Q. During the time you were employed by the United Gas Improvement Company the business which you have spoken of on cross-examination as your own business was the company's business, was it not?

A. Yes.

Mr. KIRBY: That is all I have on that subject, Mr. Master. There is the matter of oil which was gone into at some length on cross-examination which I do not desire to take up at this time, not having gone into it at all on direct-examination, and I therefore ask that

I may have the right to take up that subject more *in extenso* when we come to consider it in relation to the cost of gas.

Mr. MATHEWSON: I have no objection.

Recross-examination by Mr. MATHEWSON:

Q. Is that plant in New Orleans, that water gas plant, in operation yet?

A. No, there have been various changes made. It has operated under several different plans since then.

4028 Q. And when you refer in these charts to the pressure being brought within a certain range you mean at that particular point, do you not?

A. Yes.

Q. Now, don't you know that of these two sheets, Exhibit KK at 125th Street and the other at Columbia College, one is on the Standard mains and the other is on the Consolidated Gas Company's mains?

A. They are connected together.

Q. And do you know whether the pressure comes from the same point or not?

A. Absolutely certainly it does.

Q. You concluded that it does from looking at those charts, do you?

A. Absolutely. I did not take——

Q. Don't you see in looking at these there is a difference of about fifteen minutes in superimposing these to reach the nearest identical lining of curves?

A. No, I do not notice that at all for the plot——

Q. Just keep them on the curved lines there exact. In other words, those lines curve and you must keep these, if you get them exactly at the right point of the proper hour on the same curves?

A. No, sir, not by a long stroke.

Q. Oh, yes, you must. You cannot run them up and down on these curved lines without running them on the curve?

A. That depends where the clock work or the pen has been set. You cannot make those lines coincide. They never do, for you could not, just the way I adjusted that instrument, I could not bring——

Q. Well, we will make that clear later ourselves, if it is necessary. What was the nature of the gas stoves on which you made your tests?

A. I made them on pretty much all the prominent stoves, the needle stove, the stop-cock stove of the——

Q. Can you name a particular make?

A. Detroit Jewell, the Chicago Jewell, and the Stamford.

Q. And the Phœnix?

A. I don't remember trying the Phœnix in regard to pressure at the point of ignition, no.

4029 Q. How long since you have actually operated a gas works directly and what was the last one you did operate?

A. I am operating it now you might say.

Q. I mean operating, the actual manager, working actual manager of a gas works?

A. In which I direct what shall be done and shall not be done?

Q. I do not mean merely a supervisor; I mean a manager of a gas works. You know what that is?

A. I have never been a figurehead. I actually managed the works and directed it, but without official position. You understand a man as consulting engineer may really have the management of the works so far as material results are concerned.

Q. Let us have the latest one you have actually managed and the date?

A. Well, the Danbury Company, I have always been consulted with about the details.

Q. Are you the manager of the Danbury Company?

A. No.

Q. Who is the manager?

A. Mr. Cowperthwait.

Q. What is the last works which you actually managed?

A. I got a letter from him day before yesterday——

Q. That is not the question. Won't you answer the question, what is the latest works at which you were actually manager?

A. Danbury, I am actually the manager there in all its details, so far as the operation is concerned. There is not a step taken which is not referred to me.

Q. You have charge of the regulation of pressure there?

A. To a certain extent. I have recently made alterations in regard to that. I told him to lay a larger pipe. We regulate from the center of the village, and I told him——

Q. Are you on the spot, the operating manager of that plant?

A. I am not on the spot there now.

Q. I know you are not. You understand what I mean.

A. I think they refer every detail of management to me.
4030 I have letters in my pocket now in regard to it if you want to see them.

Q. What are the duties of this management?

A. To see that things are carried out in right shape.

Q. Aside from Danbury what is the last one you have actually managed before that?

A. Asheville, North Carolina, just a short time and Faribault, Minnesota, Butte, Montana, Schenectady, advice in connection with it, the General Electric plant——

Q. That I have not asked you about, advice in connection with it. I am now talking about operating manager.

A. So far as that is concerned, no manager operates the plant in the sense you probably wish to state.

Q. Then you have not been an operator have you, put it that way, you have not been an operator of the works, is that right?

A. In many cases I have run the works with my own hands.

Q. In Danbury?

A. Yes, turned it off and regulated it while I was experimenting.

Q. Yes, but generally speaking, while the works are running you have a manager there, haven't you?

A. Yes.

The MASTER: I want to call the attention of the counsel for the defendants that their time expired on the 30th of October and although that matter was brought to their attention at the time and it was stated that it would be necessary to make an application and have a certificate from me, it has not been done. The time cannot be allowed to remain open in this way.

Adjourned to Thursday, November 15th, 1906, at 10.30 A. M.

Last Exhibits:

Complainant's, 256.
City's, 63.
State's, 88.

4031 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *November 19th*, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Page, Mr. Burr.

4032 At the hearing of November 7th Mr. Kirby, on behalf of the defendants, requested an adjournment until the following Monday, November 12th, as his witnesses were not yet finished with the necessary examination of the plants and papers of the complainant. The adjournment requested by Mr. Kirby was granted, but, at the suggestion of the Master, and for his accommodation, it was extended until Thursday, the 15th inst. Subsequently, because of the engagements of the Master, the hearing was further adjourned until this morning, the 19th inst.

Senator Page, on behalf of the State, now requests an adjournment until Wednesday, November 21st, on the ground that his witnesses are not yet ready to testify; and an adjournment is therefore taken to Wednesday, November 21st, 1906, at 10:30 A. M.

NOVEMBER 21ST, 1906.

Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Page, Mr. Kirby.

HENRY H. EDGERTON resumed.

The MASTER: I want to call attention of counsel for the defendants, now for the third time to the fact that their time to take testi-

mony expired some time ago, and I have not yet been furnished with the papers on which to grant a certificate.

Mr. BURR: I might have saved that announcement if I had been here a moment sooner. Here are the papers.

4033 The MASTER: I want to say to all counsel, in view of the time we have necessarily lost here recently, that I hope we can get started promptly every day hereafter. Our sessions are not any too long, and if we can get started every morning at 10:30 it will be of some assistance.

By Mr. KIRBY:

Q. In your previous testimony you have given us the names of various plants which you have installed and of which you have put in the distributing system. What was your custom in laying the mains and services of those systems in reference to the depth below the pavement which you placed the mains?

A. As most of the works which I have erected were intended for the use of water gas, and as early experiments in regard to those gases showed me that they would stand cold and compression with less serious loss than was the case with coal gas, I took advantage of that fact to incur as little expense in laying the mains as possible and rarely, excepting in exceptional cases, went below the depth of two feet from the top of the pipe, below the surface of the ground or pavement.

Q. And you have laid mains in the streets to carry water gas or a mixture of water and coal gas at an approximate distance of two feet below the surface?

A. Yes, sir.

Q. Have you laid such pipes in climates as severe as that of New York, in winter?

A. Yes, sir. I laid pipe in that line in Minnesota, which is quite as severe as New York.

Q. When pipe was laid by you at this distance below the surface did you find any trouble resulting therefrom during the cold weather?

A. No, sir. I made a number of very severe tests in regard to the stability of water gas subjected to cold. In one case I

4034 remember pumping it at a pressure of forty-five pounds a distance of three miles where the pipes averaged less than two feet below the surface, and then blowing it back from the neighboring town, and in trying it on the photometer found there was no perceptible loss. These experiments were reported in a case before the Corporation's Committee of the Connecticut Legislature, and I think were unchallenged as regards that point.

Q. Did you find any trouble in your service mains owing to the cold when your mains were laid at this distance below the surface?

A. You speak of the service pipes?

Q. In the services.

A. I found that a rather shallow main is a preventive of trouble in services rather than adding to it. If there is a slight amount of moisture in the gas, the moisture is taken out in the cold main and less trouble ensues in the service pipe. I had an opportunity to compare

my plants with those of the Minneapolis Gas Company, and in Minneapolis, owing to the cold weather, the mains were laid at a great depth, from five to six feet; and comparing the service troubles in Minneapolis with those of Faribault, a town of about 50 miles from Minneapolis, I found that they had relatively ten times the trouble with services and frozen lamps that we had in Faribault; and in talking the matter over with Mr. Brown, who is president of the Minneapolis company, I called his attention to the fact that the moisture in the gas was frozen out in the shallow mains, in the main pipe, and therefore did not carry on to the services; the mains being of large dimensions, the deduction due to moisture was not noticeable. I compared our complaints of frozen services with those of Mr. Brown's and he admitted that he had been probably on the wrong track in burying his mains so deep in the ground.

4035 Mr. MATHEWSON: I move to strike out that last statement of Mr. Brown's.

The MASTER: Strike it out.

Mr. PAGE: You mean what Mr. Brown said?

Mr. MATHEWSON: Yes.

Q. And in Faribault how deep below the surface did you place your mains?

A. In Faribault the practice had been to place the mains deep, like in Minneapolis, but I changed that. I found there that the deep pipes were the ones that gave the trouble in services and the shallow ones did not.

Q. And you changed such mains to shallow mains?

A. Some of the main pipes I raised as opportunity afforded to a higher level.

Q. How did you find the trouble in the services from such mains raised to a higher level as compared with services from those mains which were not raised to the higher level;

A. I noticed right along in all my experience with water gas the shallow mains gave less trouble from freezing as regards the service pipes.

Q. Have you in your installation of plants and inspections of the various works around the country observed any instances where mains carrying gas have either been placed a very small distance below the surface or exposed to the air?

A. I have noticed that engineers generally now do not regard it as necessary to shield mains as carefully as they used to. I noticed in Baltimore that the 16-inch mains, I think it is 16 inches, that convey the gas from Sparrow Point to the city of Baltimore are exposed quite freely to the open air, that is, laid above the ground and across trestle works, and along trestle works entirely exposed to the air.

Q. Is this exposure of gas pipes to the open air one which is customary around gas works?

A. Yes, I frequently see exposed pipes around the works
4036 where it is difficult or expensive to keep them under cover.

I also notice that the gas holders are now generally exposed to the weather. The practice of covering gas holders with brick build-

ings has almost ceased, and that any gas which would stand the cold of a gas holder in connection with the cold water contained in the gas holder tanks would certainly stand a temperature in the main pipe with two feet of soil covering them. I will say, however, that there is according to my tests an appreciable deposition of illuminating matter in the holder, as shown by the fact that in the warm weather after the cold spells the candle power of the gas will rise considerably above the normal unless more new water gas is put into it.

Q. Have you noticed in the Borough of Manhattan any exposed service pipes which are not protected against the weather, but are exposed to the open air?

(No reply.)

Q. Are not the lamp posts themselves such indications?

A. Yes, the lamp risers, the risers in the lamp post are exposed to extreme cold; the service pipes generally are covered or protected. They sometimes pass through open areas, where they are exposed to cold, and when the gas is moist there is the point where we generally find the frost gathers in severe weather.

Q. Could you make any deductions from trouble or lack of trouble in lamp posts as to whether or not there would be trouble in the gas mains if the same were placed closer to the surface than three feet or below frost?

A. The same holds good in regard to lamps freezing out in winter as regards the service of consumers; gas which has been previously dried by the cold mains and deposited, the moisture in the
4037 mains is less liable to have any moisture left to deposit in the risers of the lamp posts.

Q. Have you made any observations of the depth of pipe of the Consolidated Gas Company beneath the surface of the street?

A. I have within the last two or three months noticed many openings; I could not tell which were the Consolidated pipes. I could recognize gas pipes from other pipes, but I have seen many places where they were about as shallow as I should care to put them.

Q. What do you mean by that?

A. I would judge not over two feet or two feet six inches below the surface of the road. I do not remember the exact localities now, but I noticed quite a number of points where they were shallow.

Q. And you have bought pipe to use as part of the distributing system of your gas works, have you not?

A. Yes, sir; I have bought considerable quantities of pipe. In fact, I bought about all the pipe for the works with which I was connected.

Q. Are you familiar with the various sizes of pipe and costs thereof?

A. Yes, sir.

Q. Are you familiar with what the costs and weights were in 1884, or thereabouts?

A. Yes, sir.

Q. Are you familiar with the cost of digging the trench within which to lay the pipes, and the refilling of the same?

A. I have taken particular notice of cost in regard to laying of the mains to the smallest details.

Q. Have you made inquiries and informed yourself as to such points in the Borough of Manhattan?

A. I have in regard to certain of the prices, and have taken notes in regard to the quantities that are found of excavation and earthwork, that is being done to lay mains at various points, more particularly down in this salt water main system.

4038 Q. Are you familiar with the cost of replacing the pavements, and have you informed yourself relative to such costs in the Borough of Manhattan?

A. I have consulted with various parties in regard to the costs; yes, sir.

Q. Have you made certain calculations, Mr. Edgerton, in reference to the cost of pipes, and if so, will you state for me your computation, based upon the size and number of feet of pipe as given by Mr. Simpson at page 288 of his testimony, taking them up in order?

A. Yes, sir; I have taken the lengths of mains as shown in Mr. Simpson's testimony and have tabulated them according to sizes. I find there is a slight difference in my total from his of 12,000 feet, which I have not had an opportunity of reconciling.

Q. Will you give us——

A. Mr. Simpson's length of main is 4,344,849 feet. The addition I make is 4,357,279. There is probably an error on my part, which I have not had a chance to correct.

Mr. MATHEWSON: Yours is higher than his total?

The WITNESS: Yes, sir; slightly higher. I have divided the mains and lengths as nearly as possible from Mr. Simpson's testimony of those which are now used laid previous to 1884, and those since 1884, and I find that of those laid before 1884 there were two million feet and of those laid and in use since 1884, as near as I can arrive at it from the testimony, 2,349,000 feet.

Q. And you assumed that there were 468 miles of new mains since 1884?

A. That was about the basis of the division.

Q. In other words, you took the testimony of Mr. Simpson as given at page 289?

A. I presume that is the page. I tried to decipher his figures——

4039 Q. Where he states that out of 822 miles 468 miles are new mains which have been laid since the consolidation?

A. Yes.

Mr. KIRBY: I wish, in making these assumptions, if there is any correction to this testimony, you would call my attention to it.

Mr. MATHEWSON: I cannot, offhand.

Q. How many feet, Mr. Edgerton, have you used of 1½ inch pipe?

A. Well, I have left out the 1½ and 2 inch mains. There is a small amount, and of no consequence. I have never, in fact, regarded a 1½ inch pipe or a 2 inch pipe in the light of a main pipe in a large plant. Those two items are left out.

Q. Of the 1½-inch pipe I note there is 1,407 feet and of the 2-inch pipe 635 feet. You have disregarded that in your computation?
A. Yes.
Q. Of the 3-inch pipe, at page 288 it is given as 227,741 feet?
A. 222,741 feet, I have it.
Q. That is right; I misread it. Did you consider that as new main or old main?
A. I took 100,000 feet of that as old main and 122,741 feet as new.
Q. What did you do with the 4-inch pipe?
A. I divided that on practically the same lines—250,000 feet of old and 327,469 feet of new.
Q. That makes a total altogether of 557,469 feet, does it not?
A. 577,469 feet.
Q. That is where you have made the error. It is 557,469.
A. I had not an opportunity to go over these figures and discover where that difference was. I assumed that it was in the dividing of these mains.
Q. In the 5-inch——

Mr. MATHEWSON: Will you give me that 3-inch again? Was it 100,000 of old and 122,741 of new?

The WITNESS: Yes.

4040 Mr. MATHEWSON: And the 4-inch was 150,000?

The WITNESS: 250,000 of old and 327,469 of new.

Q. Now the 5-inch?
A. I wish to explain that this division is pro rata to the total mileage; it is not derived from the testimony in any other way than prorating each size according to the amount of new mains and old mains in the ground. It is a matter of small consequence, the only difference being that to the old main I applied the old weights of mains and to the new main I applied a little heavier weight of main, because years ago we used lighter mains than we do now.
Q. Now the 5-inch, Mr. Edgerton, what division did you make?
A. I have not got that. There was a very small amount of it, 1,799 feet.
Q. And that you ignored?
A. Yes.
Q. The 6-inch main; what division did you make?
A. 1,000,000 feet of old main and 1,129,000 feet of new.
Q. The eight-inch main? What division did you make?
A. 250,000 feet of old main and 278,000 of new.
Q. And of the ten-inch?
A. 30,000 of the old and 41,286 of new.
Q. And of the twelve-inch?
A. 150,000 feet of old and 171,536 feet of new.
Q. And of the sixteen-inch?
A. 45,000 feet of old and 53,900 feet of new.
Q. And of the eighteen-inch?
A. 12,000 feet of old and 17,633 feet of new.
Q. And of the twenty-inch?
A. 80,000 feet of the old and 98,805 feet of new.
Q. And of the twenty-four inch?

A. 20,000 of old and 25,956 of new.

Q. And of the thirty-inch?

A. 60,000 feet of old and 71,583 feet of new.

4041 Q. And of the thirty-six-inch?

A. 11,000 feet of old and 11,242 feet of new.

Q. To these old mains you gave certain weights, did you not?

A. Yes, sir.

Q. And to the new mains you gave certain other weights, did you not?

A. Yes, sir.

Q. Now, will you kindly give us the weights which you used for the old and the new?

A. The old mains I took, as follows:

3-inch main, at 11 pounds per ft.
4-inch main, at 17 pounds per ft.
6-inch main, at 25 pounds per ft.
8-inch main, at 38 pounds per ft.
10-inch main, at 50 pounds per ft.
12-inch main, at 58 pounds per ft.
16-inch main, at 100 pounds per ft.
18-inch main, at 120 pounds per ft.
20-inch main, at 140 pounds per ft.
24-inch main, at 185 pounds per ft.
30-inch main, at 270 pounds per ft.
36-inch main, at 360 pounds per ft.

Q. What was the unit you used to bring forth that result for these old mains?

A. Why, I used those mains which were in general use in the earlier times of gas pipe laying, as iron was high during the seventies and they had a custom of making the mains rather light, and it seemed to have continued. Now that iron is cheaper they seem to have increased the weight of the mains quite a percentage.

By Mr. MATHEWSON:

Q. Who are "they"?

A. The iron founders.

By Mr. KIRBY:

4042 Q. In reference to the new mains, what weights did you use for the various sizes?

A. They are as follows:

3-inch main, at 12 pounds per ft.
4-inch main, at 18 pounds per ft.
6-inch main, at 30 pounds per ft.
8-inch main, at 44 pounds per ft.
10-inch main, at 55 pounds per ft.
12-inch main, at 72 pounds per ft.
16-inch main, at 110 pounds per ft.
18-inch main, at 130 pounds per ft.
20-inch main, at 150 pounds per ft.
24-inch main, at 200 pounds per ft.
30-inch main, at 260 pounds per ft.
36-inch main, at 360 pounds per ft.

These large pipes demanding about the same as previously.

Q. On page 324 of the testimony Mr. Simpson stated that "the price of pipe in 1884 was $25.00 and something a ton—I will give you the right figures. In 1885, as near as I can get to it, the price of pipe was $25.50, and December, 1905, $28.90; a difference of $3.40 per ton of pipe."

Mr. MATHEWSON: It should be $35.00 in 1884 instead of $25.00. That is a clerical error. In other words, in 1884 pipe was higher than it is now. In 1885 it was a little lower.

Q. Now, Mr. Edgerton, are you willing to accept the figure of $28.90 as the cost of pipe to-day, or, if not, what figure did you use?

A. I used as the cost to apply to these mains $28.90, but I used the short ton instead of the long ton in calculating the cost—short ton of 2,000 pounds.

Q. And you consider that to be the price of the main alongside of the trench?

A. Yes, sir.

4043 Q. That is for the 2,000-pound ton?

A. Yes, sir.

Q. Now, have you upon that basis figured out your price per foot for your new and old pipe?

A. Yes. I have added the total weight in pounds calculated on the basis stated of old pipe and the new pipe together, and arrived at a figure of 210,036,966 pounds, which in short tons would be 105,018,-498, which at $28.90 would give an amount of $3,035,034.65. I add to that 10 per cent. for crosses and Ts and specials of various kinds, and I have not had time to go into a computation of specials more in detail than that, and assume an addition of ten per cent. of the total weight would cover the cost of specials and the difference in price between specials and straight pipe.

Q. Ten per cent. would amount to how much?

A. I didn't add it on in that place. With the ten per cent. added it would amount to $3,338,538.11.

Q. Which figure represents the total cost of the pipe, including all specials, all wastage or breakage and everything which goes to make up the amount which would have to be expended to buy the pipe necessary to replace the number of thousand feet of mains you have indicated?

A. Yes, sir.

Q. In taking ten per cent., did your experience lead you to believe that ten per cent. of the cost of pipe would be sufficient to take care of breakage, wastage, specials or such other charges which had to do with the cost of material in the pipe?

A. I should think it would. I do not generally figure it that way. If I had time I would go into it more in detail, taking the different sizes of pipe and adding the specials required in accordance with the distances between streets and making due allowance for breakage in such specials as might be needed for obstructions in the laying

4044 of mains, which method would be more accurate, but I think ten per cent. would more than cover it.

Q. In your opinion, then, if you went into it in the manner which you have suggested, your experience would show you that it would probably be less than ten per cent.?

A. I think so.

Q. In this estimate did you take into consideration the 27.2 miles of mains which are not in use at the present time?

A. I did. They are included in this estimate. In fact, I didn't know which sizes to throw out on that 27 miles of main as lost. I left them in.

Q. Will you assume that the average of those sizes were 6-inch mains and calculate how much difference that would make in your total of three million and odd dollars?

A. It would be natural to assume that there were some of the smaller mains thrown out, and I think it would probably average as low as 6-inch main.

By Mr. MATHEWSON:

Q. Probably average lower, wouldn't it?

A. Well, possibly lower. I think that very little 6-inch main would be thrown out.

By Mr. KIRBY:

Q. Do you think an assumption that it was 6-inch main would be a fair one?

A. I think that it would be large enough. I don't think that much 6-inch main would be thrown out of this. No, I cannot say——

Q. Well, if this statement were placed before you, that there were 27.2 miles out of this 822.2 which are not in active use, what would you, as a man of experience in those matters, consider as a probable average size of the main represented by the 27.2 miles?

4045 A. Well, I think it would be safer to take the average of 4-inch rather than 6, considering that——

Q. Well, will you assume then four inches?

A. I think that would be safe.

Q. Now, will you make for us a calculation showing how much deduction that would make from your three million and odd dollars?

A. I will make it roughly.

Q. Make it first roughly.

A. Subject to correction?

Q. And then after the testimony is printed you can make it with more refinement, and if you find it different we will request to have the testimony corrected accordingly. I take it that the sliding rule will be accurate within a percentage which is fair.

A. Well, that probably, within one per cent., would amount to 2,472,000 pounds. $33,500.00. I have assumed this to be the old pipe, naturally.

Q. Now, will you make that deduction, Mr. Edgerton, from your other total and see what the result is?

A. Deducting that from the previous total, it leaves $3,305,038.11.

Q. You have made certain computations relative to the cost of

excavating the trench in which these mains are laid and the laying of the main therein and the refilling of such trench, have you not?

A. Yes, sir.

Q. In such computation did you use certain size of trench for a certain size of pipe?

A. Yes, sir. I took off the size of cuttings in the asphalt and width of cuttings, observations made through the city and where work is progressing at present, and as to the depth, I compared—or, rather, as to the size of the ditch, I compared my own experience with that of some of the best authorities, and I converted the excavating into cubic yards of lineal foot of pipe, and made out a table of the
4046 cubic yards of dirt that would be removed of paving for each size of pipe.

Q. Now, first, in reference to the size of trench, what size trench did you use for 1-inch and 2-inch pipe?

A. I should use practically the same as the 3-inch, but I have not included that in my estimate.

Q. What size did you use for the 3-inch?

A. The width is 1.833. I converted it into decimals instead of inches; and the depth of the trench of 2.25. That gives cubic yards per foot, .152; 4-inch, the same width, depth 2.33 cubic yards per foot .158.

By Mr. MATHEWSON:

Q. How wide is the 4-inch cut?

A. 1.833 feet. The remainder are as follows:

Inch.	Feet wide.	Depth of trench.	Cubic yards per foot.
6	1.833	2.5	.169
8	2	2.66	.197
10	2.08	3	.231
12	2.33	3.20	.276
16	2.33	3.33	.287
18	2.33	3.53	.304
20	2.5	3.8	.352
24	3	4	.444
30	3.6	4.6	.612
36	4	5	.741

I have made the width slightly greater than I find for the salt water mains cutting the asphalt. I found in many places where the mains are laid the cut in the asphalt was but two inches clear of the width of the bell, and I took photographs of a number of such cases showing measurements and the state of the surroundings in order to show it more clearly. I can present those in the morning.

4047 By Mr. KIRBY:

Q. Now these widths of trench which you have used are such which your experience in laying mains has taught you to be proper for the purpose, are they not?

A. Yes, sir. I think they will hold the mains very nicely, and

with the allowance I have made for caulking holes I think they can be put together in very good shape in those widths.

A. Assuming that the mains were laid more than two feet below the surface, would you still carry this width of main?

A. Yes, I should not make it any larger. I see the practice here is to cut it a little short of what I have given in regard to these deep salt-water mains.

Q. Now you have spoken of bell holes and such, what do you mean by that?

A. It is necesary to have a space around the end of each pipe in order to caulk the lead into the joints, and we call that space the caulking. My practice has been with small sizes to put together and caulk three joints of 3-inch and three joints of 4-inch on the surface of the ground, on a sort of alignment table, and lower the pipe into the trench. In this manner I get rid of a number of small caulking holes. Coming up to the 6-inch, it is possible to lower two pipes together, but as a general thing I put the 6-inch in in single length.

Q. How are these pipes put together? After they are placed together in the trench?

A. The spigot end of the pipe is entered into the bell and the joint is then yarned solidly to a sufficient depth and a gate then made, the lead poured in, the lead driven tightly home with a caulking tool till a perfectly sound and solid joint is made.

Q. Have you made any allowance for doing such work in computing the size of your trench?

4048 A. I have added ten per cent. to the total excavation to allow for these caulking holes and such extra holes for specials, and meeting cases of difficulties, which I considered ample.

Q. In computing the cost of your excavation and refilling and laying, how great a percentage did you consider as that which would represent the excavation of rock in the trench?

A. I have not finished my calculations in regard to the rock. I have taken Mr. Simpson's figures as to the amount and——

Q. What do you mean that you have taken Mr. Simpson's figures as to the amount; what figures did you take?

A. I understood it was ten per cent., I think it was.

Q. And you have assumed, then that ten per cent. of all your excavation would be in rock? Is that correct?

A. That is part of it. Ten per cent. of the pipes being in rock, and not ten per cent. of the excavation, because there would be the pavement to cut through and loose dirt; I presume the rock at two feet below the surface, there would probably be one-half of it.

Q. Will you kindly explain?

A. Taking ten per cent. of the pipe as being laid in rocky ground, the pavement would first have to be removed.

Mr. MATHEWSON: How much did you allow for pavement, the depth for pavement?

The WITNESS: Well, nine inches for the blocks, and I should consider the balance below the paving line as rock, although I doubt whether, when pavement is laid in that manner, whether it is laid down solid on the rock, but possibly it may be. It would have to have a bedding to equalize it.

Q. And of that distance from the bottom of the pavement to the bottom of the trench you assumed that ten per cent. would be rock?

4049 A. Yes. As I have stated, I have not calculated that out, but that is the basis on which I should proceed to calculate it.

Q. And you calculated out your rock excavation and refilling?

A. I have.

Q. And you used 90 per cent. of the total material excavated as being earth, did you not? Is that so?

A. I think I calculated the whole of it as dirt, but I think I deducted ten per cent. subsequently. I have not aggregated as yet these figures, for the reason I have yet to add in the lead and yarning, but I think I deducted from the total of excavation ten per cent. for the rock portions; at any rate, it should be deducted.

Q. You have made a computation there assuming that the entire amount of excavation would be through dirt, as I understand it?

A. Yes; the computation is entirely based on dirt, and the idea was to deduct from that the ten per cent. which was supposed to be rock.

Q. And then to add to the total the cost of exvacating the ten per cent. of rock? That was your method of operation?

A. That was the basis.

Q. In the excavating of dirt what price did you use to represent the taking out of the material, the placing of the pipe in the ground and refilling of the dirt?

A. I have only the taking out and the refilling; I have not the items of caulking and pipe laying and leading.

Q. Then for digging out the material and refilling, what price did you use?

A. I took that at 67 cents.

Q. Per what?

A. Per cubic yard; per cubic yard.

Q. And do you consider that price to be one which is proper for the present day——

Mr. MATHEWSON: Just a minute. The witness has had no

4050 experience in New York at all. He says he is merely getting these figures from other sources.

Mr. KIRBY: I think if Mr. Mathewson will allow me to finish my question he will find it is quite proper.

Mr. MATHEWSON: I thought you had finished.

Q. Do you consider that price, Mr. Edgerton, as one which is proper for present day wages, such as you are familiar with them elsewhere and in accordance with such information as you have obtained relative to conditions in the City of New York?

A. I should think——

Mr. MATHEWSON: Wait a minute. Does that cover the excavating and refilling?

The WITNESS: Excavating and refilling. It does not cover the carting away of such surplus that the larger sizes might entail. That is the point I had not come to yet.

Mr. MATHEWSON: I object to the question. The witness is not competent.

Mr. KIRBY: Well, the Master can rule on that when he comes in. And the witness may answer now, I suppose.

A. I consider that ample. I have looked at conditions here in New York to some extent, and with the New York operations and various engineering operations here for a period of 25 or 30 years, and I do not see why it should cost more than that.

Q. Using such figure of 67 cents, what did you find is the cost of excavating and refilling the various trenches for the various sizes of pipe in the ground and the number of *fact* thereof, as you have testified, as used by you in your computation?

4051 A. The total excavation and filling including the 10 per cent. for caulking the holes and contingencies is 1,005,730 cubic yards which at 67 cents a cubic yard would be $673,852.50.

Mr. MATHEWSON: That does not include any rock and does not include the carting and dumping, does it?

A. No, sir.

Q. Will you give that a little more in detail?

A. I took the length of each size of pipe and multiplied it by the cubic yard factor per running foot and from that computation got the excavation for each size of pipe.

Q. Will you give the total of your excavation for each size of pipe?

A.—

3 inch	39,300
4 "	88,100
6 "	360,000
8 "	104,000
10 "	16,400
12 "	88,700
16 "	28,400
18 "	9,120
20 "	62,900
24 "	20,400
30 "	80,500
36 "	16,500

Mr. MATHEWSON: Will the Master give us a ruling on that previous question?

(Question read).

Mr. MATHEWSON: I object to the question. The witness is not competent. His own experience of wages had in Danbury is not the slightest criterion of what they are in New York. He has

4052 made inquiries, but I do not think he is competent to testify on the subject.

The MASTER: I think it is evident, that, strictly speaking, he is not competent; his testimony on wages and so forth is necessarily hearsay; he says so himself; but at the same time, I will allow his testimony to stand and take his computation as a whole for what it may be worth.

Mr. MATHEWSON: The whole testimony of the witness, it seems to me, is assumption and speculation, and assuming how much is new pipe and how much is old; I cannot conceive how it is of any value.

Mr. KIRBY: Here is a man who has laid pipe all over the United States——

Mr. MATHEWSON: He does not know how much is new and how much is old. It is entirely incompetent.

The MASTER: He says he has inquired about as to conditions here and various elements, and there is no opportunity to cross-examine the sources of his information on that subject. His testimony is evidently hearsay, but I will take the computation for what it may be worth.

Mr. MATHEWSON: Exception.

Q. Have you made any comparison of this price of 67 cents per cubic yard with prices you have made elsewhere and prices you are familiar with elsewhere, and if so, what do you find to be the result of such comparison?

Mr. MATHEWSON: Objected to as irrelevant and immaterial.

The MASTER: I will allow that.

Mr. MATHEWSON: Exception.

4053 A. Yes, I have. It is a considerably larger price than I have used elsewhere, and I find, in comparing the standard authorities, that my costs are larger in respect of excavation, and all the items entering in so far are about double the English prices.

Q. In your computations, giving the cost of excavation of rock, what price did you use per cubic yard?

A. I have not computed that yet. I have taken that at $6.00 a cubic yard.

Q. And have as yet to make that computation on that assumption?

A. On that basis.

Mr. KIRBY: I think we will save time if we could adjourn now and let Mr. Edgerton make his computation on this rock. It is nearly one o'clock.

Mr. MATHEWSON: It seems to me that the witness should have been prepared to testify here, if he was going to testify on this, without taking up so much time by computation and incomplete items.

Mr. KIRBY: I do not think we can be accused of taking up any time here. There have been no computations made and the testimony has been the result of his computation.

Mr. MATHEWSON: Yes, there have been quite a number of computations.

The MASTER: We will take a recess until 2:10 P. M.

After Recess.

Mr. KIRBY: Mr. Master, we find ourselves in this position. We have here Mr. Edgerton, who has this morning given the re-
4054 sults of all his calculations that he has made thus far. We have endeavored during the luncheon hour to make certain

other calculations but find that to bring the total of his results we will have to make certain averages on assumptions, which we do not desire to make. Mr. Edgerton states that with the noise from this adjoining building which is being constructed and with the confusion which is apt to go on during the time of figuring that he is apt to make mistakes in simply multiplying and adding and subtracting, and that in one-tenth of the time off the witness stand he can do it better, more accurately and not have it subject to any corrections which he might have to make if he does the figuring on the witness stand. He has his base prices here; he has given his testimony as far as it goes, and while we have no other witness to go on with I really believe it would save time if we could either adjourn for a couple of hours to enable us to make these computations or else to have the cross-examination as to the accuracy of his base figures postponed and then have him present in a table to-morrow morning the result of those calculations which would be upon the figures he here presents.

The MASTER: He has had since the 7th day of November to make these calculations, and it seems to me you should either be ready to go on with the witness or have another witness here.

Mr. KIRBY: I can go on with the witness in the way I have indicated, but it takes up time and gives poor results.

The MASTER: Undoubtedly, but it should have been done before, and I must say it seems to me that counsel are not dealing
4055 exactly fair with the other side or with me to let this case drag along like this, in view of the pressure we are under to finish it.

Mr. KIRBY: We did not expect to go on with Mr. Edgerton to-day.

The MASTER: I know, but there are five or six other witnesses, real estate experts and what not. The complainants closed their case on the 14th of September and you have had since then to get ready, and it seems to me there is no excuse for not being prepared to go on from day to day, especially as we had a recess a week longer than you asked for the last time.

Mr. MATHEWSON: Mr. Hough, your witness, was here this morning, prepared to go on with his testimony.

The MASTER: I understand they decided not to call him, but they could have known that several days ago, it seems to me, and provided for some other witness who must be ready or who should be ready.

Mr. MATHEWSON: He is one of the two engineers who have been examining the plant for a month, as I understand it. I want to be entirely courteous but I could not go on with the cross-examination of this witness at the present stage.

The MASTER: Cannot you get another witness by telephone?

Mr. KIRBY: It is quite impossible.

The MASTER: Mr. Mathewson would undoubtedly consent to suspend this gentleman's examination indefinitely, and then go on with somebody else.

Mr. KIRBY: There is no one else we can put on to-day. We will go on to-morrow and continuously thereafter. Mr. Edgerton
4056 was brought here to-day to endeavor to put in all of this testimony. He has been working on it but he has not made

his calculations. He has been giving his base figures, and it was only late yesterday afternoon that we came to the conclusion that it would be necessary to put him on to-day by reason of our other witnesses not being ready. From that time until early this morning he and I have worked—far into the night and from very early this morning, in an endeavor to have these calculations made, and it was physically impossible to do more than we have done. During recess we endeavored to do what we could, but you can well see it is not two times two makes four—it is far more than that. We can make these calculations now. We can spend the afternoon in doing it, but I think it is taking up all our time unnecessarily, and we could do it in one-tenth of the time if we had quiet and did it in the usual and customary way.

The MASTER: There is no point in going on simply for the purpose of filling up the time, if the witness is not prepared with his testimony.

Mr. KIRBY: That is the position I am taking. I think it is foolish to waste time by adding up, multiplying and dividing and saying that is -he result. We can do if it is necessary, but it is taking all our time and I think it is not bringing forth any good results. We could have this in tabulated form, not only that which we have given this morning but which we would give if we were prepared for it this afternoon, so it will be spread before Mr. Mathewson in a manner which I think will suit his purpose on cross-examination better than the testimony as it is. I am willing to do anything which
4057 suggests itself to either the Master or which would meet with the approval of Mr. Mathewson, but I think it would be a waste of time to go on in this way.

The MASTER: Well, I do not think that the case is progressing as it should, I am free to say that, and I shall hesitate very much about making any further certificate for time unless the case is run on a little different basis. When Mr. Mathewson was being pressed here to go on with his case he sometimes had two or three witnesses sitting here waiting so as not to waste any time. If you are going to fall by the wayside with the witness you should have had another one here so as not to waste time. I was called back here and came back at considerable personal inconvenience Monday morning, expecting to go on. Nobody did me the courtesy to even telegraph stating you were not going on. I have lost three days. I think the least that might have been done was to telegraph me so I could put in the time on something else. I came here Monday and have been sitting here three days and not accomplished one and one-half hour's work. I think we had better suspend, Mr. Mathewson. I do not see any point in laboring along and having these calculations made here. All of us can use our time to better advantage. Mr. Kirby is undoubtedly right about that.

Mr. KIRBY: We can go on to-morrow at half-past nine or ten o'clock.

Mr. MATHEWSON: Half-past ten is about as early as any of us can get to work, I think. I will go on though to-morrow at 10 o'clock, if the Master desires.

The MASTER: I think it would be better if we could because
4058 I have got to leave early, and I suppose so will you, for a committee meeting to-morrow afternoon.

Mr. MATHEWSON: All right. I will go on at ten o'clock.

At 2:25 P. M. adjourned to November 22, 1906, at 10 o'clock A. M.

Last Exhibits:

Complainant's, 256.
State's, SS.
City's, 63.

4059 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, THURSDAY, *November* 22, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Kirby, Mr. Burr.

4060 HENRY H. EDGERTON resumes the stand and further testifies:

Direct-examination continued by Mr. KIRBY:

Q. Since yesterday, have you refigured your cost of pipes, making the correction which you found in your figures of the 4-inch pipe and adding the 1½-inch and 2-inch pipe which you had not included in your first total?

A. Yes, sir. I also included the 5-inch pipe which was not included in it.

Q. And that gives your total for pipe as how much?

A. 4,345,121 feet. This still differs slightly from Mr. Simpson's figures. I find that it does not add up on——

Q. There is an error of a thousand or more feet, yours being the larger figure?

A. I think so; yes, sir.

Q. And what is the total price of that pipe or cost of that pipe as estimated by you?

Mr. MATHEWSON: Can he give the number of tons.

Mr. KIRBY: Yes.

The WITNESS: 104,873.558.

Mr. MATHEWSON: You had 105,018 yesterday without those missing links in.

Mr. KIRBY: But he had 20,000 more feet of one than had been given by Mr. Simpson. He stated he had made an error in that, and that, of course, has been deducted, which makes his grand total less than it was yesterday.

Q. What error was it that you corrected which now makes your total less than it was yesterday?

A. I had 20,000 feet too large an amount on the 4-inch pipe.

Q. And you have deducted that?

A. Yes, sir.

4061 Q. Which pipe you have given at the cost figure of about how many dollars?

A. $3,300,430.

Q. As against how much which you gave yesterday before the correction was made?

A. $3,305,038.11.

Q. Have you figured out the total cost of trenching and filling, exclusive of any rock excavation?

A. Yes, sir.

Q. And what is your total figure?

Mr. MATHEWSON: You mean on the same basis of the unit figure which he assumed elsewhere?

Mr. KIRBY: Yes.

A. $663,394.15.

Q. Have you figured out the cost of excavating rock?

A. Yes, sir. Excavating rock on one-tenth the length of mains costs $371,770.

Q. Now will you give us your method of making this computation or of arriving at this cost?

A. I took the total cubic yards of trenching, which was 990,132 cubic yards; one-tenth amounting to 99,132 cubic yards. From this I deducted for the overlying pavement and bedding, one quarter, or 24,780 yards, leaving 74,352 yards of rock, which I have estimated at $5 per yard, bringing the cost to $371,770.

Q. Have you estimated the cost of lead and yarn which would be used in caulking all of the pipe which would be placed in the ground, including the specials and other connections?

A. Lead and yarn I have estimated at $253,825.

Q. Will you give us the computation which you have made to arrive at that total?

A. I took the amount of lead required for the different sized joints, using the maximum figures in all cases of weights for each class of joints, and in that way arrived at the total weight of the lead, which I multiplied——

4062 By Mr. MATHEWSON:

Q. What did you find the weight to be?

A. 3,912,800 pounds; which I took at five and three quarter cents a pound; the total weight of yarn, 155,000 pounds, at five cents, equals $7,750; and the total of lead and yarn amounted to $230,750,

to which I added for the lead and yarn required for specials ten per cent., or $23,075, making altogether $253,825.

Q. How much did that make your lead alone?

A. The value?

Q. Yes?

A. $223,000, plus ten per cent. for specials.

By Mr. KIRBY:

Q. Have you also calculated the cost of laying, caulking and other incidental expenses having to do with the putting of the pipe in the ground?

A. Yes, sir.

Q. What do you make that to be?

A. That amounts to $261,758.06.

Q. How did you make that computation?

A. I made that computation of the laying, caulking and tool charge on different sizes of pipe by the running foot.

Q. And what prices did you use per running foot for the different sizes of pipes?

A.—

Inch.	Cents per foot.
3	3.7
4	4.
6	4.3
8	4.5
10	5.82
12	6.47
16	8.9
18	10.4
20	12.53
24	15.21
30	20.1
36	29.2

4063

Q. And using those costs per foot, you get a total of laying, etc., of $261,758.06?

A. Yes, sir.

Q. Have you made a computation of the cost of carting away such dirt from the trenches which you consider could not be packed therein after the pipes were placed in the trench?

A. Yes, sir.

Q. What is your total of that cost?

A. I make that 73,000 cubic yards, which I allow for carting $156,000.

Q. How did you arrive at that number of cubic yards?

A. I took the cubic contents of the different sized pipes above 6 inches.

Q. Why did you not take them below 6 inches?

A. I think that the dirt could all be put back in the ditch below that size.

Q. And the cubic contents of the larger sized pipes was figured at a price of removal of how much per cubic yard?
A. It comes to slightly over $2.00 per cubic yard.

By Mr. MATHEWSON:

Q. Cannot you give it to us definitely?
A. Well, it is 73 divided into $156,000. It would be $2.14.

By Mr. KIRBY:

Q. Now, to these costs, did you add any further figures, excluding for the moment the cost of replacing the pavement?
A. I added for supervision, foremen, guarding, and so forth, $127,000.
Q. Did you add anything else?
A. I add also for carting of tools, $45,000.
Q. Now, you have also estimated the cost of replacing such
4064 pavement as would have to be removed?
A. Before that I have added to the total cost, exclusive of the main pipe itself; I have added for contingencies ten per cent., $140,997.72.

By Mr. MATHEWSON:

Q. I do not understand that. Do you mean that includes replacing pavements?
A. Oh, no.
Q. This is before you come to the pavement?
A. Before I get to pavements. This is contingencies, ten per cent. on everything except the cost of pipe.

By Mr. KIRBY:

Q. Now, have you given us all the charges of every kind which you have considered proper in arriving at the total cost of replacing the mains, such as have been testified to by Mr. Simpson, in the manner that you have stated, with the exception of replacing such pavement as would have to be renewed to place the pipes in the ground?
A. Yes, sir. I think that includes everything.
Q. You have computed, have you not, the cost of replacing such pavement?
A. I have.
Q. And what have you assumed as the kind of pavement and the proportions thereof covering the entire system of mains belonging to the Consolidated Gas Company?
A. I have computed for asphalt pavement on 90 per cent. of the length of mains.
Q. Why did you use that figure?
A. I based that on Mr. Simpson's statement that 90 per cent. was laid under asphalt and pavements of equal cost.
Q. In your observations do you consider that a high or a low estimate?

Mr. MATHEWSON: It is simply a matter of mileage. The
4065 record shows just how many miles there are of asphalt and new pavement, and it is not a matter of opinion. I should object to the witness's observation.

Mr. KIRBY: I do not think we have any direct testimony as to what it is, more than Mr. Simpson's statement as to what he considers it is.

Mr. MATHEWSON: The witness, Mr. Simpson, has figures from the departments themselves. We keep track, to the foot, of the miles of asphalt pavement.

Mr. KIRBY: It has not been offered in evidence.

Mr. MATHEWSON: It is testified to by Mr. Simpson, to his knowledge. If the witness testifies that it is right in his opinion, if it is wrong he simply convicts himself of error.

Mr. KIRBY: Well, he may run that risk.

The MASTER: You may answer.

Exception.

A. I do not think I am posted enough on their mains to say what percentage of it is under asphalt.

Q. You have assumed in your computations 90 per cent.?

A. I have assumed 90 per cent., as stated by Mr. Simpson.

Q. Now, what width of pavement did you use, compared to the size of trench and within which the pipe was to be laid?

A. I added 6 inches on to the width of the trenches, although I didn't see any evidence in such cases as I looked at that any such amount was necessary or used.

Q. In adding 6 inches, do you mean that you assumed that the pavement to be replaced was three inches on each side of the trench greater than the width of the trench itself?

A. Yes, sir; wider than the width of the cut through the asphalt, through the pavement.

Q. And did you assume that the cost of replacing that
4066 asphalt was approximately the cost of replacing all other kinds of modern pavements, such as wood block and the like?

A. I assumed that it would cover it all; and it seems to be rather a large figure to cover it on such an amount of work as was here figured on .

Q. What price per square yard did you give for the replacing, as the cost of replacement of all such pavements?

A. $2.75 per square foot.

Q. For other pavement what cost per square yard did you use?

A. For the remaining one-tenth I used 30 cents per square yard.

Q. Using these costs as your basis of calculation, what total did you arrive at as the cost of replacing the asphalt or equivalent pavement, or the cost of replacing the ten per cent, of other pavements?

A. The cost of the asphalt and equivalent pavement was $2,883,-664.32; and the cost of replacing ordinary pavement was $34,953.30.

Q. Now, adding these totals to the other costs which you have given, what do you make your estimate of the cost of replacing or reproducing the mains of the Consolidated Gas Company, laid, as

you have testified to, and using the units of price which you have given?

A. The grand total amounts to $8,919,792.55.

Q. In your opinion could these mains be purchased, put together and placed in the ground to-day, with all necessary excavations, refilling and repaving, for the figures which you have given?

Mr. MATHEWSON: I object to that, as the witness is incompetent to testify. He has already testified upon certain assumptions that he has made, information from one source or another, and has given the results. Is it competent to permit him to give his opinion
4067 in addition to that, where he has had no experience here or in New York?

The MASTER: I will allow it, Mr. Mathewson, for the reasons already stated.

Exception.

A. In making up this estimate I have used multipliers of the material and labor very considerably larger than I have been used to, in order to meet the difficulties in New York, and I have in many cases doubled up the cost on portions of it, and I have compared it with what I have considered to be accurate statements from other authorities and other towns in the country, and I consider that the figures given would be found in excess of what is required to do that work, rather than deficient.

Q. In your testimony, Mr. Edgerton, you have made reference to the laying in this borough of salt-water mains, the same being placed in the ground in various parts of the borough at this time, and you have given the width of trench which you observed as being used to hold these mains. Did you make any photographs of such works in a manner to indicate the width of such trench?

A. Yes, sir.

Q. Is the series of six photographs which I show you those of this work?

A. Yes, sir; those represent the width of the trenches as I saw them and the photographs show the width comparing it with a yard-stick measure. They were taken in various parts of the city where the work is going on; although they have a somewhat similar general appearance, they were all taken in different localities.

Q. I show you this photograph and ask you if you will state where it was taken, if you know; the size of pipe which was placed in that trench, and if you can testify from the photograph what the width of trench was?

4068 Mr. MATHEWSON: Did he see the pipe put in the trench?
Mr. KIRBY: Yes. If he did not, I did.

Mr. MATHEWSON: Well, you are not on the stand.

A. I saw the sizes being used and the excess of pipe lay along that trench in various places. This photograph represents the laying of a 12-inch salt-water main.

Q. Where?

A. This was on 13th Street; 12th or 13th Street.

Q. That is 12th Street you have.

A. I have a mark on the negatives which shows the exact locations, which I can tell by referring to my memorandum.

Mr. KIRBY: I will testify it is 12th Street, because it is right where I live, and I recognize the house. Proceed.

The WITNESS (continuing): I found as a general thing in laying these mains that the cut in the asphalt is barely two inches wider than the extreme width of the bell of the mains, and therefore on this 12-inch main, with an 18-inch bell, there are 20 inches cut through the asphalt; in some places as much as 22 inches. I do not think the cut would *would* average over 20 inches.

By Mr. MATHEWSON:

Q. That is the 12-inch main, is it?

A. 12-inch main. I endeavored to show in the photograph the irregularities in the roadbed owing to the damage done by traffic, and as we come into the edge of the trench——

By Mr. KIRBY:

Q. Now, you have laid a yardstick across that trench, have you not?

A. Yes, sir.

4069 Q. And does that indicate how wide that trench is at that part?

A. The yardstick is 36 inches long, and by comparison on the photograph with the total length of yardstick it will be readily seen that the width of the trench on——

Q. (Interrupting.) These other three photographs show the same general results, do they not?

A. Yes, sir; only they are taken in different localities; some of them several blocks apart. They all show the same general width of trench.

Q. And were these trenches all for twelve-inch pipe?

A. Those four were all for a twelve-inch pipe.

Q. And these trenches were not more than 22 inches in width, and in most instances 20 inches in width?

A. Yes, sir.

Q. As indicated by the measurements there?

A. Yes, sir.

Mr. KIRBY: I offer these four in evidence.

Mr. MATHEWSON: I object to them as immaterial and irrelevant. They do not show anything; they merely show a ditch temporarily filled, and everybody knows when they come to replace the asphalt pavement they have to trim it off, always do, and that that does not indicate the width of the asphalt that will go into that cover.

The WITNESS: I have allowed for that, three inches on each side.

Mr. KIRBY: The witness has allowed for that. That is the same that Mr. Simpson allowed. This testimony is not in regard to the width of the asphalt, but in regard to the width of the trench, which is materially different from this estimate of Mr. Simpson's for placing his gas mains in the ground.

Objection overruled; exception.

4070 The four photographs are received in evidence, and marked, respectively, State's Exhibits TT, UU, VV and WW.

Q. I show you two other photographs showing the trench. For what sized pipes were these trenches dug, if you know?

A. The pipe in this case is a 24-inch main, 24 inches internal diameter. And one photograph is taken of a straight run of pipe, showing the location of pipe in the ditch and the width of the trench, and the other was taken at a street corner, an intersection, and is made at a point where there is a very deep excavation.

Q. What do you mean by a very deep excavation?

A. An excavation to carry the mains beneath obstructions.

Q. How deep would you mean by that—three or four feet, or five feet?

A. I think this is about ten feet deep.

Q. What is the width of that trench, the one being ten or more feet deep?

A. That trench is 36 inches.

Q. And how deep is the trench in the other photograph, the straight run?

A. That was five feet from the top of the main to the surface of the ground.

Q. What was the width of the trench?

A. Also the same—3 feet in the narrowest part and about 3 feet 6 inches in the widest, showing a cut there. The photograph shows different widths, as the stone pavement underneath projects into the ditch.

Q. And in these trenches was it necessary to use timbers to brace the sides of the ditch?

A. Yes. In such cases it is necessary to use what we call sheath piling.

Mr. KIRBY: I offer those two photographs in evidence.

Same objection; same ruling. Exception.

The two photographs are received in evidence, the photograph showing straight run being marked State's Exhibit XX; the

4071 second photograph being marked State's Exhibit YY.

Mr. KIRBY: That is all I have to ask Mr. Edgerton.

Cross-examination by Mr. MATHEWSON:

Q. Is not Mr. W. E. Mackay of Boston the consulting engineer of the Danbury Company at present?

A. He was called in at Danbury to advocate the lowering of price of gas and turned up a few days afterwards and advocated the lowering of the quality correspondingly, just as is done in many cases.

Q. That doesn't quite answer my question. Is Mr. Mackay the consulting engineer for the Danbury Company at present?

A. No, sir.

Q. Do you claim that you still are?

A. Yes, sir.

Q. Consulting engineer of the Danbury Company at present?

A. They consult me in all cases, and have up to the present moment.

Q. But are you the consulting engineer—is that the term used?—for the Danbury Company?

A. There is no consulting engineer, so far as official title is concerned, for a little company like that.

Q. What is the output of that company?

A. 74,000,000 feet, based on ordinary coal gas quality; we calculate the output on the basis of coal gas.

Q. What kind of gas is it that you furnish and make; is it not oil gas?

A. It is water and oil gas of 35 candle power, tested in our fashion, and 44 tested in the usual way.

Q. Oil gas or largely oil gas, delivered through small pipes at great pressure, is it not?

A. No, the pressure is only two inches at the consumer's meter.

Q. That is the maximum pressure at the consumer's meter, two inches?

A. Two inches is the regular pressure in the burning hours; during the day time there are some manufactured—there may be
4072 times when it is slightly greater than two inches. I never saw it to exceed two and one-half inches.

Q. And the charge for that gas is about $5, is it not about, or something like that?

Mr. KIRBY: I object. That is not proper cross-examination.

The MASTER: I will allow it.

Mr. KIRBY: Exception.

A. The charge for that gas, the 44 candle, averages $2.70 per thousand.

Q. The maximum charge is $5, isn't it?

A. The maximum price to small consumers is $3.15.

Q. Since what time has it been below $5 for the maximum charge?

A. Fifteen years.

Q. Have you ever laid any pipe in the City of New York?

A. No, sir.

Q. Have you ever employed any labor in laying pipe in this city?

A. No, sir.

Q. What is the largest size of main at Danbury?

A. Ten inch.

Q. And a comparatively small amount of ten-inch, is there not, compared with the entire mileage?

A. About a mile. I understand it does not take but a small pipe to deliver 44 candle power gas.

Q. Did you lay the ten-inch pipes?

A. I think I was there and looked over the laying of that pipe; I don't remember that I took any contract for it.

Q. How deep is the pipe laid in Minneapolis below the top of the pavement?

A. From five to six feet, as an ordinary thing.

Q. Did you read Prof. Bemis' testimony, that he very recently

recommended a gas system to the City of Montreal, with pipe laid six feet below the surface?

A. I did not, but I would not advocate any such pipe laying as that anywhere.

Q. If he did so recommend, you think he did not know
4073 his business, do you, so far as that is concerned?

A. I think he has not investigated it as fully as he might on that particular point.

Q. Now, your estimate of the cost of mains in New York City is not based upon the reproduction of the main system as it now exists here to-day with the same depth at which the present pipes are laid, is it?

A. I don't know the average depth of the present pipe; I have seen numerous cases where they were much shallower than this estimate of mine, that is gas pipes; I don't know whether they were the Consolidated gas pipes.

Q. But your pipes were laid under this estimate at an average depth of two feet, you say?

A. Two feet from the surface of the pavement to the top of the pipe, yes, sir.

Q. So that if the pipes of the Consolidated Gas Company average more than two feet deep your figures would not represent the entire cost of reproduction of those pipes, even if your other figures were correct, would they?

A. They would have to be corrected to the average depth so far as trenching is concerned, yes, sir.

Q. What kind of gas is used in Baltimore where you saw the mains exposed?

A. Coke oven gas, coal gas you might call it. It is rather a low candle power coal gas.

Q. Now, what causes the deposits in the holder when gas cools?

A. Well, the cold is what causes the deposits.

Q. And if the same circumstances are observable in the main the same effect follows in the main, does it not?

A. No, not necessarily.

Q. Do you mean to say cold produces a deposit when the gas is in the holder, but does not when the gas is in the main?

A. The deposit in the holder being on gas that is freshly made deposits out all the condensible matter that would be depos-
4074 ited at the given temperature, and there would be nothing left further to deposit in the mains.

Q. Is not something deposited with every additional decrease in temperature, a greater or less amount?

A. Yes, there is a deposit with decrease in temperature, but I had not estimated there would be a decrease in the mains over the holder.

Q. When you say that the public lamps in the City of New York represent exposed services, are you not aware that on cold nights hundreds—a thousand of the lamps freeze up in New York City in the winter, the public lamps?

A. Yes, I suppose they would. It is for that reason I make the

main shallower. I say in that case with the shallow mains the deposit is condensed out of the gas and does not collect in the lamp.

Q. So you think the shallower the main the less liability there would be for trouble?

A. I know it.

Q. If there is no deposit in the main, why are drip pans placed?

A. Drips are placed on the mains usually, they are receptacles for water; there is very little, in my experience, of deposit in the mains except water, and a mere skimming of condensation from the gas is the only thing I have ever observed.

Q. Does not pumping those produce oil as well as water?

A. A mere trace.

Q. In your experience, a mere trace?

A. Yes, sir. In one case I gathered it for a whole winter in three miles of mains and did not get half a barrel on the total output.

Q. What kind of gas was that?

A. Water gas of 44 candles, with a larger percentage of condensable hydro-carbons than would be in the case with 22 candles, by far.

Q. Had that gas been previously condensed or compressed?

A. This amount, I think, was taken out by the compression and cold before entering the pressure mains.

4075 Q. Before entering the mains upon which the services are located?

A. Before entering the mains to take it to the neighboring town; my object being to ascertain how much condensable matter could be pressed out of gas by pressure and cold. The pressure in that case was about 45 pounds per square inch, and the experiment was continued during the whole winter, in order to arrive at the amount of condensation, which was almost negligible, based upon the amount of gas sent out.

Q. Would it surprise you to learn that in New York City the records of this company show as high in cold weather as 30 per cent. of oil from the drip in some cases?

A. I should be very much surprised to find any such percentage indeed, because that would represent more than all the light in the gas; there would not be any light left in the gas with such a percentage.

Q. Perhaps we can take care of that, but it would be contrary to the experience upon which you have been testifying to-day if that proved to be the fact, would it not?

A. If 30 per cent. of all the oil used was condensed in the mains?

Q. No, if 30 per cent. of the drip taken out of the pans was oil and 70 per cent. water, instead of a mere trace of oil?

A. That would be a very extraordinary amount of drip, and would show that the machinery was out of order in such cases.

Q. What machinery?

A. The gas producing machinery. The condition of it determines the amount of drip to a considerable extent. If the gas is not properly fixed and the oil is not converted into gas there will be considerable matter left in the gas.

Q. But you will assume that the gas has been in the holder before

it got to the mains, and if there had been any such condition as that, would it not have been deposited at that time?

A. Under those circumstances there must have occurred
4076 a large deposit in the gas holders, but it would depend entirely in that case how much the total condensation from that drip would be. If it was stated in quantity, 30 per cent. would not be a large quantity of condensation, taken on a small amount of condensation.

Q. Well, in taking these pipes you have assumed that the same proportion of each size of pipe was what you call old pipe, old prior to 1884, and the same proportion of each size was new pipe. You followed that same proportion through each size of pipe; is that right, in your computation?

A. I followed it generally. I did not in each case compute 468/822nds, you may say, but I proportioned it.

Q. Well, with substantial accuracy?

A. Substantially, and at the end, finding I was in excess by 27 miles on the old pipe, I deducted that 27 miles from the old pipe in order to bring it back to the proportion that was stated by Mr. Simpson.

Q. You have no knowledge as to how much was old pipe and how much was new pipe?

A. Nothing further than the statement of Mr. Simpson.

Q. You don't know what the weight of the pipe prior to 1884 as used by the Consolidated Gas Company was, do you?

A. Only from knowledge of the weights of iron founders as practiced at that time.

Q. You do know the weight of the heavier pipe which you have assumed was used since 1884, do you?

A. In my experience in regard to the weights delivered by various pipe founders and in their catalogues.

Q. You have no other knowledge than that?

A. No; I did not weigh their pipes. I do not believe anybody else did, for that matter.

Q. You don't know whether the Consolidated Gas Company has taken what are the standard weights, or whether they have had special pipe manufactured of special weights, do you?

4077 A. No, sir, I do not. They may have a heavier line of pipe than anybody else, but I don't know whether they exceed the heavy weights used in this country.

Q. Now, don't you know, or have not you reason to suppose that substantially all this small pipe from 1½ inches to 5 inches was installed before 1884, or at that time?

A. Naturally, I would not suppose anybody after 1884 would lay 1½-inch pipe and 2-inch pipe and call them mains.

Q. And yet you have included that as half new and half old pipe in the computation, or a proportion of new and a proportion of old, have you not?

A. No, I have not. I have not included those smaller sizes.

Q. None of them?

A. On the contrary, I deducted the 27 miles of dead mains, I deducted entirely from the small sizes of old mains.

Q. Well, for an average of 4 inches?

A. 4 inches and below.

Q. Yes. Well, did that take up all the old pipe from 1 to 5 inches?

A. It was intended to.

Q. Do you know whether or not it did—did you compute to see?

A. I think 27 miles would cover all the small pipe and run into perhaps the 4 inches.

Q. Now, take the heavier mains, the 30-inch and 36-inch mains, those are very much more expensive than the smaller sizes, are they not?

A. In casting, do you mean?

Q. No, I mean in cost per foot?

A. Oh, certainly, a 36-inch main is more expensive than the average.

Q. Now, as a matter of fact, you assumed that nearly half of the 36-inch main had been laid with lighter pipe prior to 1884 in your computation here, did you not?

A. No, not at all. On the contrary, the heavier mains were heavier in 1884 than they are now. That was my computation, and there is none of the heavy mains deduced in this 27 miles. It is all on light mains.

4078 Q. How about the 30-inch main; is it not the presumption that is practically all new as well as the 36-inch main?

A. No, sir. Referring to the inventory of Mr. Allen made in 1884 I notice quite a percentage of large size mains.

Q. Do you remember what percentage?

A. No, I had not time to figure out the percentage, but there is quite a percentage.

Q. You did not know that all the 30-inch mains is new except about four miles and that all the 36-inch mains is new within the last few years?

A. I intended to go through Mr. Allen's computations there but did not have time to do it. I suppose a large percentage of the larger mains is new.

Q. Assuming that a certain portion of this pipe was what you call old pipe in or prior to 1884 and therefore was of a lighter weight as you have stated, you have taken $28.90 per short ton as the value of the iron value of the pipe. Don't you know that several of these subsidiary companies, that is the six companies forming the Consolidated Gas Company, laid the greater part of their mains between 1860 and 1880?

A. As before stated, I have not computed from Mr. Allen's inventory the percentage. I know that a large percentage of it was laid in that way.

Q. Don't you know, as Dr. Marks testified, that during that period pipe brought as high as $70 a ton in some cases in New York City?

A. I don't know whether it was in New York City. I paid $72 to $76 a ton for pipe in the 70's, and that is the reason it was made lighter, I suppose. They were skimping on it.

Q. But you assumed it was at that time of a lighter weight, but you did not take the additional cost per ton into consideration, did you, which you say was the occasion of the lighter weight?

A. I did not consider it necessary to take the price of pipe
4079 in the 70's in order to find out what it cost to lay it to-day, no.

Q. You are assuming then that it would cost less to-day to lay it than it would cost to lay it originally, are you not?

A. I don't think there is any assumption upon that. That is plain enough.

Q. It would cost less to lay it to-day than it cost to install it originally, is that right?

A. I say that is right as a general thing, although looking at these estimates of mine and looking back at some old actualities in those days, I find to my surprise that the pipe laid was very little less than it is now.

Q. I know, but I am speaking as a general proposition. I understand your reply is as a general proposition, and not picking out a specific case.

A. Yes. Pipe at $76 per ton is certainly more expensive than pipe at $28.90.

Q. And the cost of that pipe in the ground originally, the cost of laying it, would represent a total cost greater than the cost of reproduction to-day of the same pipe in the ground, would it not?

A. As before stated, I saw the actual figures of the cost of laying the Mutual pipes, and it differed very little from what it is to-day.

Q. You don't know when the Mutual pipe was laid, do you?

A. Yes, exactly.

Q. Was not the Mutual organized about 1830?

A. No, sir, in 1872 or from 1870 to 1872 the Mutual was built.

Q. Do you mean to say that the Mutual Gas Light Company was not incorporated until 1872.

A. I don't know about the date of incorporation; I am speaking of the building of the works. I was in New York City during the construction of the Mutual works and starting of it, and was consulted about it, so I have reason to remember that.

Q. Now, in computing the length of pipe, do you allow 4 inches for the hub or any other length, or do you assume the pipe to
4080 be placed end to end in your computations?

A. Well, my computation is based on the actual length of pipe, whether it is 12 feet length laid or whether 12 feet 4 inches, it does not make any essential difference.

Q. Don't you understand that the figures of the mileage given by the company, 822 miles, for instance, includes the length as the pipes are laid in the ground and therefore duplicates the pipe for each joint?

A. It duplicates the amount that the socket goes in, but that is allowed for in the computation.

Q. Well, how much is that for each joint?

A. It is the weight of 4 inches or whatever the bell covers.

Q. Did you allow for that in addition to the actual mileage in your computation of values here?

A. Yes, sir.

Q. How much do you allow for specials per pound?

A. I allow a little over double the cost for specials over the cost of pipes. The 10 per cent. allowance made for specials would allow of their costing somewhat over double the cost of mains per pound.

Q. How much per pound-

A. It would be 3¾ to 4 cents per pound.

Q. Where delivered-

A. In New York.

Q. Is your computation for pipe delivered alongside the trench or on the dock?

A. At the ditch, and cartage included.

Q. Are not the rates per ton usually computed on the dock and not alongside?

A. They are when you don't know what the destination is, but in—— -

Q. Well, aren't they anyway in New York City?

A. As a general thing a bid on pipe would be, and it would be specified.

Q. How much did you allow for transportation from the dock to the trench?

A. I included that in the cost of the pipe.

4081 Q. Did not you separate the two at all in your computation or in your mind, the cost at the dock plus the cost to deliver alongside, making the total $28.90?

A. No, for the reason that when once pipe is delivered, whether the destination is at the yard or whether in the street, the difference would be comparatively trifling.

Q. How would that be if it came by water, is not the cost considerably more to deliver it alongside the ditch, than it is delivered on board at the dock in New York City?

A. I estimated to include the cartage to the ditch.

Q. How much did you allow for cartage from the dock to the ditch?

A. I have not the exact figure here. I can get that for you. I estimated the pipe intending that the pipe would be included along the ditch, in an estimate of this kind.

Q. I understand, but don't you know that pipe is as a rule delivered in New York City at the dock and that we have got to reckon with that, and that the boats which bring the pipes cannot deliver it at the ditch?

A. Certainly.

Q. Won't you tell me how much you would allow for the cartage from the dock to the ditch, so I can see what the $28.90 would represent at the dock?

A. I cannot give you that figure just now; I have included it in, however.

Q. Did you actually make a separation and figure it out?

A. I have separated it as nearly as I can.

Q. Can you not remember what the basis of your computation was?

A. No, I do not. I calculated a short ton instead of a long ton on the computation, and that together with the cartage gave me this figure.

Q. You cannot tell how much the cartage was now?

A. No, I can figure it out. I took into consideration the fact that I had reduced also the price per ton from the long ton to a
4082 short ton of 2,000 pounds, and that made some difference in the cost of the pipe naturally.

Q. Oh, of course. Now, do you take into consideration the fact that when pipe is ordered it is often necessary to transport it from the dock to the yard and store it, or portions of it, pending use or the opening of a ditch and then load it and recart it to the ditch?

A. In making pipe-laying contracts I have often made with the contractor the provision that he would lay it alongside of the ditch and——

Q. But you know in the City of New York that the ordinances forbid of the opening of more than a certain length of ditch at the same time, so you would not lay your pipe alongside until the ditch is ready?

A. That is the case everywhere, you cannot string it all over the city.

Q. Did you make any allowance then for double cartage of the pipe or some part of it first to the yard and then from the yard to the ditch later?

A. I don't think it involved any double cartage. I do not think it is necessary to make any allowance for double cartage.

Q. You think you can allow pipe to remain on the dock until it is used and then have a single transportation to the ditch, do you, as a general thing, in the City of New York?

A. I think an arrangement could be made in a contract of that size for storage of the pipe, certainly.

Q. Well, if an arrangement was made, that would involve some payment for the use of the dock for that stor-ge purpose?

A. Yes, that is a figure I am not acquainted with, and I supposed that the difference between the long ton and short ton certainly ought to cover such a charge as that.

Q. The difference between the long and short ton may cover a multitude of sins, but the question is whether in your compu-
4083 tation you intended that to offset these other considerations to which I am referring?

A. I intended it to cover it, certainly. I would not knock off 240 pounds to the ton without some consideration for it.

Q. Did you not consider that the short ton was worth $28.90?

A. No, I did not, by any means, for the long ton as quoted by Mr. Simpson was $28.90.

Q. But pipe to-day in the City of New York is worth more than $28.90, is it not?

A. Certainly. Just at the end of the year when everybody is hustling to get their jobs done and have delayed, there is a temporary rise in pipe, almost always, and in the fall, and I should not think of asking prices on a large quantity of pipe at the season when everybody was pressing for pipe.

Q. Don't you know that pipe was higher in January, 1906, than it was in October, 1905, or don't you?

A. That must be an exceptional case, when it happened that way.

Q. Now, don't you know that pipe was higher in July last than it was in January last?

A. I am stating the general course of pipes, that it will rise towards the active time in the fall when belated people are engaged in rushing in their mains.

Q. I am asking you this question. Mr. Simpson has testified and you have seen it if you have read his testimony, that it was higher in January, 1906, than it was in October, 1905. Didn't you know that to be the fact?

A. I don't remember his testimony in that respect.

Q. Do you know that to be the fact?

A. State your question again.

Q. That pipe was higher in the first part of 1906, say, January, than it was in October, 1905, which was in the fall?

A. I know that this year there has been a rise in the price of pipe to some extent.

Q. Don't you know that pipe was higher in July, 1906,
4084 than even it was in January, 1906?

A. Oh, there is an attempted corner in pipe.

Q. Just answer my question, won't you? I don't know anything about corners, I am talking about what we have to pay for pipe. Read the question.

(Previous question read).

A. All I know in regard to that is that a number of people were holding off from laying pipe on account of the higher prices.

Q. Well, will you answer the question now?

(Question repeated.)

A. That is the only way I knew it, was by people ceasing to——

Q. I do not ask you the way you knew it. Don't you know it, Mr. Edgerton?

A. I did not ask the quotations at that time, no, sir.

Q. Then you do not know it, is that so?

A. I know it from the way I have stated, that I inquired why people were not laying certain pipes and they told me there had been a rise.

Q. How long since you have been in the market as a purchaser for pipe?

A. I have not bought any pipe since 1904, I think it was.

Q. Was that for Asheville?

A. That was for Asheville.

Q. How about the cost of trenching and refilling, do you know what the charge for labor is per day in the City of New York of that character?

A. I have estimated $1.75 for ordinary labor.

Q. For how many hour's work?

A. Ten hours.

Q. You do not know whether the eight hour or ten hour day prevails in New York?

A. I do not know to what extent they draw the difference or line between eight and ten hour work, but the higher priced work I suppose is eight hours and laboring men are on a ten hour basis.

Q. Do you know whether there is any difference in the
4085 number of hours work under the city contracts, such as the laying of the salt water mains and the contracts of other corporations?

A. No, I have not the data in regard to salt water mains further than ascertaining how it was done.

Q. How wide a trench did you say a three-inch main would require?

A. I think it was one foot—1.833, which is equivalent to 22 inches, I think.

Q. You have assumed 67 cents a yard as the cost of excavating these trenches. Do you know what the company is actually paying per yard?

Mr. KIRBY: Sixty-seven cents for dirt?

Mr. MATHEWSON: Yes, for dirt.

Q. Do you know what the Consolidated Gas Company is actually paying under contract for the removal of dirt in the City of New York?

A. Digging out of the trench, do you mean or removing it——

Q. Yes, excavating it.

A. I do not. I only know——

Q. You have never made any contracts for the excavation of dirt in the City of New York, have you, under our regulations?

A. No.

Q. Do you know what the City pays per cubic yard for the excavation of dirt for these salt water mains to which you refer?

A. I know, being very much deeper, they probably pay more.

Q. Don't you know what they are paying?

A. No.

Q. Has it not been brought to you that they are paying a dollar a yard instead of 67 cents?

A. Well, I think a dollar and 67 cents would agree very well on the different depths of trench.

Q. You think *an* account of the greater depth a dollar would be equivalent to 67 cents for what depth of trench?

A. My depths probably do not average half the depth, perhaps not one-third of the depth of the salt water mains.

Q. Well, you are assuming a depth of two feet below the
4086 top of the pavement for the top of the pipe, are you not?

A. Yes. I saw their pipes buried five feet to the top of the pipe, and I should say on a great deal of that excavation $1.00 for that would be as cheap as 67 cents would be for handling it two feet. You might in many cases have to rehandle it.

Q. Did you see many cases in which they did have to rehandle it?

A. I saw——

Q. Did you see many cases where the dirt could not be thrown up

to the top of the trench to the place where the workman was standing?

A. Yes.

Q. Was it a large proportion of that mileage that you saw?

A. It was mostly at street intersections. I know a man could not stand in a trench when the water main was 5 feet below the surface and there was 2½ feet more added and throw it very conveniently to the top. I don't think he could.

Q. What standard authorities did you consult as to the cost of labor in New York City?

A. I asked the cost of ordinary labor in New York City and I understand it was $1.75 for common labor, ditching.

Q. Now, you have allowed how much for the width of trench on each side of the diameter of the pipe so far as the Gas Company is concerned?

A. I say I have allowed more than I found to be the case——

Q. Well, how much have you allowed?

A. I think it would fairly average 4 inches bigger than the bell of the pipe.

Q. Two inches on each side?

A. Yes.

Q. Don't you know that the City's specifications allow 1 foot on each side of the pipe in all trench work; for example, for a 24-inch pipe a 4-foot trench?

A. They might allow it but they do not do it. I don't know what——

Q. Don't you know that they do allow it?

4087 A. I have only informed myself as to actualities. I don't know what the ordinances may be, no, sir.

Q. Don't you know that it is required to tamp down under all gas mains laid, and that that tamping can only be done inside the ditch?

A. Well, we always settle the dirt very firmly in a gas trench, sometimes by tamping and sometimes by water.

Q. You have got to have width enough of trench so you can do your tamping under the main, havn't you?

A. Not necessarily, I prefer to use water.

Q. Do you know in New York City they do not allow the use of water in place of tamping, or do not you know that?

A. I never knew of a place where they did not allow water for settling.

Q. Well, they do not in New York, and I want to ask you if you did not know it?

A. On the contrary, I was informed that they did allow it and was done.

Q. Your information is that private contractors like the Consolidated Gas Company can use water instead of tamping, is that right, in their trenching?

A. Yes, I think that water is the best way to settle dirt in a trench. It may cost more than tamping, but it is certainly the best way of doing it.

Q. Well, if you do it by tamping you must have your ditch wider than if you use water, must you not?

A. No, I do not think so. If you have got your ditch 4 inches wider than the bell of the pipe, I do not see what is to prevent tamping around the side of the pipe especially in a shallow depth.

Q. What about the slant of your tamping bar, must you not be able to get that in at an angle in order to do the tamping?

A. There is room enough at that depth of ditch to tamp underneath the pipe withe perfect ease.

Q. And with two inches on each side of the pipe?

4088 A. That is the bell. The bell is a good deal larger than the pipe.

Q. Do you have to do any tamping under the bell?

A. Well, the tamping under the bell would be infinitesimal, in fact the rim of the bell extends a distance of about an inch and a half where it is of its largest diameter.

Q. Did you know that in this city the City compels everything to be taken out of its way, all pipes, when it has any work to do in the street, any pipes to lay?

A. Naturally, I suppose that they require obstructions to be removed from necessary work.

Q. At the expense of the company having the pipes there, of course?

A. I do not see that that applies to a new work.

Q. Did you know that in crossing nearly all the avenues with a gas main of 24 inches or 30 inches in diameter it is necessary to go down in almost every instance from ten to twenty feet, or did not you know that?

A. No, I saw plenty of room to go above everything I have seen in laying pipes——

Q. If you were above the pipes running lengthwise of an avenue and placed your pipes on those pipes how near the surface would the 24 or 30-inch main come, do you think?

A. I do not understand that in running pipe parallel with the other you lay them on top.

Q. I am talking about laying mains across an avenue, where there are already pipes, and I asked you if you did not know it was necessary in almost every instance in laying 24 to 30-inch main to go from ten to twenty feet deep in order to get the pipe below the pipe and other obstructions in the street?

A. No, I do not think that would be the case at all.

Q. You did not take that into consideration in your computation of cost?

A. I took into consideration in looking at those intersec-

4089 tions at the crossings of the streets, of which there are a number open, that there was no room to put ordinary-sized pipe there.

Q. How many miles of the 822 miles of mains in New York City do you think you have personally inspected through openings of the earth?

A. During the construction of the subway and visits to New York during a period of 40 years I have seen a great deal of it. But I have not seen all of it by any means, and I do not think any other man has.

Q. I will ask you if you knew that in almost every instance in laying a twenty-four to thirty-inch main across an avenue in New York City you have to go from 10 to 20 feet deep in order to do that?

A. No, I will say you would strike the sewers in such cases as that.

Q. Don't you know that the company often has to go under the sewers in laying these pipes across avenues?

A. No, I do not know. I never knew of a case that had to go underneath sewers to lay pipes.

Q. You did not make any allowance for such expensive excavation as that, did you in your estimate of cost?

A. Never. I do not think anybody would allow an estimate for running gas pipes beneath sewers. I would not——

Q. You did not make any allowance for such things as that, did you, as a matter of fact, Mr. Edgerton?

A. No, sir, I never would, nor anyone else.

Q. Well, you did not. Just answer my question.

A. I never estimated a gas pipe going underneath a street sewer, no, sir.

Q. And you did not make any estimate for the necessity of laying your pipes 10 to 20 feet deep in crossing avenues with 24 to 30-inch pipes?

A. No, sir, and I do not think it is——

4090 Mr. MATHEWSON: I move to strike out the last part of the answer.

The MASTER: Strike out after all "no."

Q. You said that these salt water mains, some of them had to go down 10 feet, didn't you?

A. I saw a salt water main at the deepest point at the intersection of—there is the salt water main at the intersection of Seventh Avenue and Thirteenth Street (handing photograph). The excavation may have been in that case 10 feet to the bottom of the pipe.

Q. Yes, you did say it was necessary to excavate 10 feet deep, did you not, or that you found a ditch 10 feet deep?

A. I found a ditch 10 feet deep in that particular case.

Q. That is my question. Did you know it cost as much as $100 a foot to cross Avenue C at 12th Street, with a 36-inch main?

A. No, sir, I did not.

Q. Did you know that it cost $40 a foot to cross Sixth Avenue at Fourth Street with a 30-inch main?

A. No, sir.

Q. Do you know what the rules of the Department of Public Works in the City of New York are as regards excavating and back filling and the character of the back fill which must be used?

A. I only know from what I see in their throwing dirt back in the ditch, I did not see that there was any more done in it than I always had been used to doing.

Q. Do you know what the regulations are?

A. No, I do not. I have not read their regulations.

Q. Do you know that the rule is if we take out rock we are not

allowed to put back any stones larger than 4 inches, but have to refill with new clean soil, did you know that?

A. No, sir; I estimated that the stones are saleable if they are of any size.

Q. Are not the blasting risks and the care necessary in
4091 blasting where you were excavating rock much greater in a city like New York than they are in a small town?

A. The small amount of rock that I have estimated on, I think the 10 per cent. contingency would cover that.

Q. Did you take into consideration in your estimates the great amount of sub-surface structures which must be dealt with in laying gas mains in the City of New York?

A. I did to the extent of laying mains to the depth I have estimated. I did not——

Q. Did you know that in constructing the Rapid Transit Subway at 42nd Street between Park Avenue and Broadway and north of Broadway to 46th Street, a distance of not more than 2,700 feet, the estimate for replacing sub-surface structures such as gas mains, etc., was about $245,000, or did not you know that?

A. I estimated any removal of gas mains by contractors would have to be at their own expense. I am not moving mains, I am only placing them in position and I am not taking care of them afterwards in this estimate.

Q. Did you know that the sub-surface structures in Avenue C were such that it took the company about three months to put its main across Avenue C, including the shoring up of other pipes and excavations and taking care of water which leaked in, etc.? Did you know there were any such difficulties as that to be encountered?

A. I understand on these shallow pipes I did not take into consideration any difficulties further than I saw would be necessary to bury pipes at that distance, which is above the usual obstructions.

Q. Did you know that the surface structures are so large and expensive that it sometimes takes the company weeks to get its main around a single corner on account of caring for other sub-surface structures and the obstructions due to them?

A. From what I have seen of the main laying, I did not
4092 see any difficulty about handling them any further than is ordinary in large cities.

Q. You did not know these things, did you, to which I have called your attention, if they be facts, and you did not allow for them?

A. I only allow for what I have seen, and I have seen a good deal of piping.

Q. You know in laying these salt water mains the city has everything removed out of its way, so that their work is comparatively simple, don't you?

A. It looked to me as simple as any work of the kind I was acquainted with. I did not see any trouble about it.

Q. You did not know it was costing the Consolidated Gas Company at the rate of $1,000 a week to get their mains out of the way for these salt water mains, did you?

A. My estimation does not include taking care of the mains after they are laid. It is simply getting them down.

Q. You spoke in reference to the depth of the excavation as though that had to do with the candle-power alone. Are there not other elements that require mains to be placed a certain distance underground except the cold which may affect candle-power?

A. They have got to be put low enough to be safe in respect of breakage or——

Q. Don't you know with the modern pavement in New York City, some of it is 18 inches deep itself, which would leave only 6 inches below the bottom of the pavement and the pipe?

A. Well, I do not see any harm in that.

Q. You do not know that it is often the practice to excavate to the depth of 18 inches before the new pavement and then roll the street with a heavy steam roller preparatory to putting in the pavement?

A. That is very usual. The depth is a little excessive, but I have seen a 12-inch bed and probably 14-inch bed laid for paving.

4093 Q. We will assume there is a depth of 18 inches, and that would leave only 6 inches from the top of the pipe if it were placed only 2 feet deep. Don't you know with only 2 feet of covering and with the heavy steam rollers they use in New York, that would certainly result in an injury to the pipe if there was only a covering of 6 inches?

A. They fill in before they roll.

Q. You don't know then that they often cut down to a depth of about 18 inches and then roll the street preparatory to putting in their pavement and foundation, do you? That had not come before you, had it?

A. Preliminary rolling, no. I do not think it is necessary.

Q. You do know that a covering of only 6 inches above the pipe with heavy steam rollers would almost certainly do injury to the pipes, don't you?

A. No, I do not think it would.

Q. You do not think it would?

A. No, sir.

Q. What about the services? Services are arranged to come out of the top of the pipe, aren't they?

A. Sometimes, and sometimes out of the side.

Q. Is it not better policy to have them come out of the top of the pipe than out of the side?

A. If the pipe is deep enough you can take them out of the top, otherwise at the side.

Q. Do you mean to say that 18 inches would be sufficient depth to take the services out of the top of the main and at the same time leave sufficient support for a heavy roller?

A. No more than I should say 90 per cent. of all the services are taken from the side of the main. When the pipe is sufficiently deep they are taken from the top.

Q. Have not you read——

A. When the pipe is shallow they are taken from the side of the main. It is a matter of indifference, the gas will come out in either case.

Q. Have not you read in the Gaslight Journal, if you have
4094 kept up with the literature, that mains have been broken even two feet below the surface by the heavy steam rollers which are used now in rolling the streets, in England?

A. There may be occasionally such cases.

Q. You have read of such cases, haven't you?

A. Very rarely.

Q. Now, take this consideration, where in the streets of a city like New York, there is much heavy traffic and much congestion of traffic, you must make more allowance, must you not, than in a smaller place where there is less congestion and less heavy traffic?

A. I do not see any reason for allowing more than they allow in the old country. It is one foot nine there and here I have allowed two feet.

Q. One foot nine below the bottom of the pavement?

A. Below the top of the pavement to the top of the pipe.

Q. What old country is it where they allow only that difference?

A. In England.

Q. What cities?

A. Newbigging gives it as an average.

Q. Don't you know that is all changed now, and that if Mr. Newbigging's suggestion was ever correct, it does not apply at the present time?

A. No, I do not.

Q. Taking now these other pipes in a street, you have observed, have you not, that many other pipes run parallel with the gas mains, as the street is uncovered?

A. Parallel and generally underneath, the water mains lying at a lower level.

Q. They are at a considerably lower level, are they not?

A. Than the gas mains, yes, sir.

Q. And then you noticed that many pipes run side by side with the gas mains and on the same level?

A. I have noticed numbers of gas mains in these subway excava-
tions suspended, yes, sir; and looking in the subway excava-
4095 tion at the time that was going on, we saw them suspended, and we see them suspended now by iron chains, and I question whether the majority of those pipes are not shallower than three feet, those that I saw. I have seen them placed where they were not two feet.

Q. Well, we have exact figures, so we know and do not have to guess; but have you not observed these other pipes running parallel and on the same horizontal level with the gas pipes?

A. Yes, sir, I have seen those to be duplicated gas pipes.

Q. Outside of gas pipes?

A. No, I don't remember other pipes running parallel outside of gas pipes. I took all those at the higher level to be gas pipes.

Q. If the Consolidated Gas Company has certain gas pipes and there are other gas pipes in the same street and parallel, would you not think that it would be wiser to place the Consolidated Gas Company pipes on the same level as the other gas pipes so that they

might not be undermined and sag when the other gas companies want to repair their pipes?

A. Yes, sir; I should place the pipes on the same general level, only that I should place pipes higher than at the height that I have estimated.

Q. Yes, but if you found the other pipes there at the lower level, you would place your pipes on the same level, would you not, if it was not very much lower?

A. No, I should run over the old pipes.

Q. Do you mean you would put your pipe directly over the old gas pipe, lay it on it?

A. No, not lay it on it; you only have to take that into account at intersections. At other than intersections the pipes run parallel.

Q. Do you not know that the yokes and ducts of the trolley companies here, which operate on pretty nearly all the avenues and many of the streets, are at least two feet six inches deep to begin with, and we have to go under the yokes; or didn't you know that?

A. The trolley ducts are in the middle of the street and
4096 the gas mains are usually on the sides of the streets.

Q. But we have to run our pipes across the streets, do we not, across the avenues?

A. In that case you would have to go below, certainly.

Q. You know that the specifications in reference to these salt water mains provide that unless otherwise ordered by the engineer all pipes shall be so laid that the top of the inside of the barrels will be five feet below the grade of the street?

A. That is a provision for salt water main laying, and salt water mains and gas mains are different mains.

Q. Is not that so as to all water pipes, and not salt water pipes alone?

A. Yes, water pipes have to be laid below frost because the water is sometimes stagnant, and it would freeze and burst the pipes if laid above the frost line.

Q. Don't you know that it is further provided in the specifications I have referred to that the trench shall be excavated 2 feet wider than the interior diameter of the pipe and 6 inches deeper than the inner bottom of the pipe?

A. I know they are not doing it.

Q. Won't you answer the question, Mr. Edgerton?

A. No, I do not know those regulations, no sir. Only what I saw.

Q. You cannot imagine, can you, why the City, which has to pay for excavation, should insist in its specifications, that the trench should be excavated 2 feet wider than the interior diameter of the pipe, unless they saw some advantage in a wide trench, and what could the advantage be if not that the pipes would be thoroughly tamped down and otherwise properly treated?

A. I don't know what becomes of that margin, no, sir, between what they say and what they do.

Q. What proportion of the mileage of these salt water mains
4097 have you actually gone over and seen the trench wide open?

A. Well, certainly not a very large mileage. I have gone over all looking wherever I saw work in progress, and wherever

I saw work that had been finished up, and the blocks put back, I took note of it. I made measurements in many cases besides those mentioned, but those are typical of the whole. It was not any very large percentage.

Q. Now, I understand that the weights which you have given for old and new pipes are simply weights which you have assumed and they are not based on any knowledge of the weights of the pipes which the Consolidated Gas Company actually had in the ground; is that right?

A. They are taken from my experience and from catalogues from these founders, those engaged in the manufacture of pipe at different periods.

Q. And if those weights are less than the pipes of the Consolidated Gas Company actually in the ground and you were to reproduce the Consolidated system as it now is, that would add to the figures given in your estimate, would it not?

A. It would add if they were heavier. I do not see how they can be heavier within any bounds of reason.

Q. Well, we do, and they are heavier, so we do not need to argue that. I am merely asking you questions. Is there any inspection by the city authorities of Danbury which you have to pay in connection with the laying of mains, city inspection?

A. There is city inspection. I don't know as there is any extra charge for it. We have to get permits.

Q. Did you make any allowance for city inspection in the case of laying these mains?

A. Yes; I figured that in here.

Q. In what, in the ten per cent. extra for contingencies?

A. Supervision, foremen and guarding, and contingencies, yes.

4098 Q. Do you now how much the city inspection costs the company?

A. I made inquiries in regard to the number of inspectors required and their compensation.

Q. What did you find their compensation was and how many of them we had to employ?

A. I have forgotten. I have a memorandum somewhere in regard to it. I think it was $1,200 a year, or something of that sort.

Q. Do you remember how many inspectors?

A. I don't remember, but they were portioned out among the companies.

Q. Did you compute how many cents per foot pipe laying costs for city inspection?

A. I did not separate that item because I saw it would not figure very largely, to have to pay the salaries of inspectors.

Q. Have you ever had any experience recently in laying in large cities where city inspection is required and where there are asphalt and modern pavements?

A. I had a tremendous amounting of inspection and fussing around at Asheville.

Q. Well, that is not a very large place, is it?

A. No, but they made a great fuss about it.

Q. Asheville is not a large city according to your view, is it?

A. No, but the pavement was a great object to preserve. It is a sort of resort, and they take great pride in their pavements, and were very exacting in regard to replacing them and cutting through them.

Q. You would hardly compare Asheville with the City of New York, would you, in the congestion of traffic and rock and city inspection and other details taken as a whole, and the size of main, would you?

A. Not in regard to the size of main, but in regard to the rigidity with which they looked after things, I thought they were severer than any place I knew of. They took——

4099 Q. You don't know what you had to pay for city inspection, do you, if you had to pay anything?

A. Well, it was not a large sum, but it made a great deal of trouble.

Q. Now you stated among other things that you laid mains shallow, as I understood it, because the gas was fixed, water gas was more fixed or permanent than coal gas. Was not that condition prevailing, so far as it did prevail, when the Pennsylvania oil was obtainable in quantity and at prices which could be afforded in gas making?

A. All properly manufactured oil and water gas is very fixed in regard to——

Q. Do you mean to say that the water gas as made from the oil now commercially obtainable and useable in gas making is of the same fixity, so to speak, as the gas which was made from the Pennsylvania oil?

A. I think so.

Q. And do you think now that the water gas now that is made from the present oils shows a greater fixity than coal gas of good quality?

A. Yes, sir; properly made. I notice the percentage of tars in some of the gases in condensation looked to me extraordinarily large, and I could not account for it at all except that the gas machinery was deficient in capacity to convert the gas. I have figures in that respect which probably will come up.

Q. Don't you know as a matter of fact that the oil now in use in gas making is so inferior in respect to fixity that in winter, to meet the condition of lower temperature, a substantially greater quantity of oil has to be used to compensate for the drop of candle power?

A. No, sir. Gas properly made now is just as fixed as it ever was.

Q. Are you making any water gas now at all except this water and oil gas at Danbury at which place you say you are manager?

A. I did not say I was manager.

4100 Q. I thought you said you were manager the other day?

A. No.

Q. Well, are you manager at Danbury?

A. No, I am not manager. I am consulted in regard to it because I put up the works.

Q. You are not managing any plant then which is producing water or oil gas, are you?

A. No, I refused to take the management of the works, for I was engaged in other works, and I am not managing the works. I have been offered a position as manager of the works.

Q. How many years is it since you have been actually in management personally of a water gas works?

A. I have been building all the time, I have not been managing only in cases where the works were starting up.

Q. Yes, I am eliminating that. I mean in actual and continuous management, where you have been in actual management of works, how many years is it since you have been in actual management of a water gas works?

A. I have not been manager in any case. I have built the works and run them to start the works and then overlooked them from time to time to see how they were getting on.

Q. So that your work has been rather in constructing and testing than in actual operation of works?

A. Interspersed sometimes with the actual operation of works, so long as it was a question of getting them started.

Q. Precisely, testing them, so to speak.

A. Sometimes the testing lasted for a long time. In the case of New Orleans it lasted for six or seven months.

Q. Do you know how long New Orleans was operated with your plant before your plant was discontinued in use wholly or practically?

A. Well, that is simply part of the plant, part of the operations. I think we ran about two years on the vertical retorts. There
4101 were then about forty different people log rolling for different ways of making gas which they sought to introduce in part as a sample there.

Q. You have not been the actual operator and manager of a gas works except in connection with testing them and putting them in condition after construction, for a great many years, have you, Mr. Edgerton?

A. No, I do not operate works, I put them in order, but that includes the operation until they are in order and working satisfactorily.

Q. Now you referred to the cost of lead or the amount which you allow for the cost of lead as $223,000. And you took lead at 5¾ cents per pound. Is not lead 6 cents per pound now instead of 5¾ cents?

A. No, sir.

Q. Where do you get your authority for the statement that lead is 5¾ cents a pound now?

A. I telephoned yesterday to a large operator in lead, handling lead, and he gave me that price.

Q. Who was he?

A. I can get the name. I have forgotten. Phelps-Dodge & Company referred me to these parties, and said they were not handling lead any more, and they referred me to a party who made a spe-

cialty of handling lead, and they gave me that figure as the trust price of lead and the street price they said was larger, but that was, as he called it, the trust price.

Q. Well, what was the street price? We have not anything to do with trusts?

A. I don't know why that trust price was quoted lower than the selling price. I suppose it was a mere question of difference between retail and wholesale price.

The MASTER: What was the street price, he asked you?

The WITNESS: I think it was 6¼ or something like that.

4102 Q. Well, that is what is known as spot lead, is it not, the street price?

A. All I know, he offered to sell lead at 5¾ cents.

Q. Don't you know what the meaning of spot lead is, the quotation?

A. I know spot cotton or spot lead or spot anything means on the spot, in handling the actual stuff. But I took it as a large dealer in lead offering that price.

Q. Well, you know the trust only sells in carload lots, don't you?

A. This would be a great many carloads.

Q. Or didn't you know that?

A. This would be a great many carloads.

Q. Oh, yes, and it would take a great many years if you were going to lay down the system of mains in New York City, all at one time, wouldn't it?

A. It would take a number of years, of course.

Q. You don't suppose that the system of mains in New York City ever was or ever could be laid down as a wholesale proposition?

A. No. It could be laid serially, of course, but it would take time.

Q. We are talking of practical things and not of Utopian. Now, let us take the weight of lead. How much weight of lead did you allow for each size joint?

A. As before stated, I took the heaviest. I see I have the results here in total, weights of lead, and the multipliers I have not got down on this paper but they correspond——

Q. You haven't the weight that you used for each joint?

A. I have it somewhere. I haven't it down on that list; but I used substantially the weights the higher range weights as recommended in here by the Gaslight Association. With the exception of the larger pipes where I used a little heavier weights.

Q. What are you reading from?

A. This is weights given by the American Gas Institute, 1906.

Q. You mean at page 14?

A. Page 14, where it says, "Weights in pounds, from and

4103 to." I adopted generally the larger weights and increased some of those on the heavier sized pipes.

Q. What depth of lead did you use on the joint?

A. Well, that varies slightly; it runs all the way from 1⅜ inch to 2½, somewhere along there.

Q. What did you use in your estimate?

A. The depth did not enter into it, because the weight of lead was

what I was arriving at. The joints will vary slightly in thickness, some being a little lighter or heavier than the other, this being an average figure.

Q. Did you allow anything for waste of lead which occurs in caulking joints?

A. The waste is very slight, but I should include that in the ten per cent. I have allowed. All the gates—what we call gates, in pouring the lead, are cut off carefully and the surplus lead trimmed off, or if any runs into the ditch through breakage of the——

Q. Do you mean to say you consider it feasible to lay mains of any considerable size by first caulking them together and then lowering them into a ditch?

A. Not any considerable size. I spoke of the smaller sizes, 3-inch, 4-inch, and two joints of six.

Q. If you have the pipe so near the surface of the ground that it heats or cools with changes of temperature, does it not result in expansion and contraction of the pipe?

A. Slight.

Q. Doesn't that have a tendency to weaken the joints and produce leakage?

A. No, sir.

Q. Not at all?

A. Not at all. You have got just as tight a pipe with a shallow depth as you have at the larger depth.

Q. But the greater the change in temperature where the pipe is the greater the contraction and expansion, is that not so?

A. That is taken up on each joint.

Q. Well, isn't it so?

A. Yes.

Q. And the greater the depth the less the change in tem-
4104 perature?

A. Yes. You could go down where there was no change.

Q. Do you mean to say that expansion and contraction have no effect whatever upon the joints of the pipes and have no tendency to produce leakage?

A. Not a particle. I have had the pipe in the open air and watched it for years. It is foolish to talk about expansion and contraction after the experience we have had with pipes, in that respect.

Q. In reference to the laying and caulking of pipes, do you know what labor is worth for laying pipes; what the wage is per man?

A. I thought I assumed it pretty high. I took caulkers at five dollars a day. I was told that was too high, and I suppose it is.

Q. What did you take for the workmen who are laying the pipe?

A. Well, except the men yarning and rolling into the trench, the caulkers are the ones who lay the pipes. They have the chief business of the laying, except the foreman. Yarning is comparatively simple work, caulking is the next, and, of course, the foreman's, on top of that, is most expensive.

Q. Well, what wages did you allow in this case. You said five dollars for the caulker. How much for the yarn man?

A. Two dollars and fifty cents; and I allowed $1.75 for the common laborers. A foreman at five dollars, the same as the caulker.

Q. What proportion of caulkers and laborers would you have?

A. Well, that would depend on the size of the pipe. I averaged that up.

Q. Well, take the 36-inch main.

A. On the 36-inch main you would have, except when lowering into the ditch, which has to be done by derricks, you would have a larger proportion of caulkers; it is more trouble to caulk the 36-inch joints—it would take two men,—than it would the smaller ones. A man to caulk a small joint—he could caulk it alone. With
4105 the larger it is convenient to hasten the work of caulking and to employ a couple of men on it, one on each side, around the top and underneath, one working opposite the other.

Q. Coming to your pavement because of replacing, that you say for the new pavement you have taken $2.75 per square yard. Did you observe from Mr. Simpson's testimony what the actual condition was as to replacing asphalt pavement, that the gas company is obliged to let the asphalt company do that, the asphalt company guarantees the pavement, and has to pay the asphalt company an average of $3.25 or $3.50 a yard for replacing it.

A. I think that is the case. I remember it was $3.25 as stated.

Q. Why did you take only $2.75 per square yard?

A. On account of being these repair jobs here and there, running around with their apparatus and tools, instead of doing a straight job right straight around; it ought to make even more difference than that.

Q. Didn't you know that the charge was exactly the same for a long trench as for a repair job in New York City, for asphalt pavements?

A. There is no such job as involves the total relying. I suppose a man is entitled to deduct for the size of a job in a case of this kind. I suppose they make even better terms than that. I am told they would make terms of $2.50 a square yard.

Q. Who would?

A. The asphalt companies?

Q. Don't you know that by law they are allowed to charge the contract price for all jobs?

A. No, sir. I know nothing about the law on it but if they get an extra job like that and make a good big profit they would be very likely to cut it and would undoubtedly do so.

Q. But we have already seen you could not put down all the mains in New York City as a wholesale job, in the natural course
4106 of events. Now if it be true that the charge of the asphalt company for the replacing of all the pavements over a long trench and the price which they may legally charge, is very much more than $2.75, then that would add materially, would it not, to the figures which you have given as the cost of replacing pavements?

A. Yes, if you had to give them that, but I have been assured they would take it at $2.50 in quantities.

Q. Do you know that the price that the company has been obliged to pay for the replacing of the modern pavement outside of asphalt, was $8.00 for the first yard and $4.00 for all other yards?

A. I saw that in the testimony, yes, sir.

Q. You didn't make any allowance for that? You put that in also at $2.75, didn't you?

A. No, I didn't put that in at $2.75. I know that the first yard is worth double on a small job; the very difference between $8.00 and $4.00 indicates why they charge so much more for the first yard in doing patchwork jobs.

Q. You understand the entire trench costs $4.00 a yard for all the yards except the first, that that is what the company has paid and been compelled to pay to the city?

A. Well, compared with this that is a retail operation; that is, it is a very small operation compared with the length of the mains.

Q. You assumed that the city, if all these mains were to be replaced, would do this for $2.75 for modern new pavement other than asphalt, when they have charged us $4.00 per yard?

A. Yes, I think they would do it for that and be glad to.

Q. You understand that this new pavement is laid by the city itself, except the asphalt, while the asphalt pavement is laid by the asphalt company under the agreement with the city?

A. This pavement you are referring to, concrete pavement?

Q. I am referring to granite on concrete as distinguished
4107 from the asphalt?

A. I do not see why it should cost any more.

Q. If it does cost more and we pay the city more for it, why shouldn't you include the actual cost to us instead of assuming a lower figure? Have you any notion that the City of New York would make a concession from the prices which it may legally charge because we want to tear up all the streets instead of a few of them?

A. I think there are always concessions made on large contracts, yes, sir.

Q. Even by the City?

A. Yes, sir; I think the City would.

Q. Is that the only ground on which you put $2.75 down here instead of prices that the company has actually paid?

A. No, basing it on the experience I have had that where a new gas works is constructed the City is always very eager to help it along and they will do a great deal to further it. That has been my experience.

Q. Then you are taking and computing even on that assumption the price on which you think the pavement could be replaced and not the cost which the company has actually been under where it has laid pipe under pavement of that sort?

A. No, not for piecemeal jobs.

Q. Now, do you know the actual cost to contractors of laying down pavements, asphalt, granite on concrete and the wooden block, per square yard?

A. I have consulted quite a number of authorities on it and also the cost to cities, for laying pavements, and have a recent compilation with regard to that, going into it very extensively——

Q. Well, I am talking about the City of New York, not elsewhere, because labor may be higher, congestion of the streets may interfere with workmen, and various other considerations arise?

A. Well, I have allowed what I thought would be a very
4108 considerable margin over what is done in other places.

Q. Well, you have allowed figures that you have taken, or estimates that you have made in getting your total, instead of the total cost to the company, of laying under these new pavements, have you not? Now, won't you give me an answer to that?

A. I have used my own.

Q. And not the figures of the company's own experience?

A. No, I have not used your experience in regard to it; I am using my own.

Q. You say you have never laid any pipes in the City of New York and, therefore, you haven't any experience in the City of New York, have you?

A. Well, not in the City of New York.

Q. Nor in any other big city in recent years in the East, have you?

A. No, sir; but I know their cost——

Q. Well, you think you know. We think you do not. Now, did you know that in replacing the old pavement we had to use sand, use six inches of sand?

A. You always have to use sand when replacing——

Q. Did you know how deep to lay the sand?

A. You have to imbed the pavement in sand and fill in the interstices; always do that.

Q. Do you know how deep we have to lay the sand below the pavement?

A. You have to make a good bed.

Q. How much?

A. It depends upon the kind of pavement.

Q. Do you know how much in New York City for ordinary old pavement, how much the specifications of the City call for?

A. No, I do not. I only know it would make good paving——

Q. But do you mean to say you have made an estimate of cost of laying the old pavement in the City of New York without knowing
how much sand the City's specifications required to be used
4109 under the old pavements?

A. As far as that I gave a figure larger than Mr. Simpson gave in his testimony.

Q. That may be, but I am testing the accuracy with which you made these calculations and your own knowledge. Now, do you know how much per yard sand costs us in the City of New York to put under the pavement?

A. I don't remember. I know that I figured in the cost of paving here as common paving laid in sand, imbedded in sand, as thirty cents.

Q. Do you know how much sand costs per cubic yard, delivered at the works I mean, of course?

A. I don't suppose it is any——

Q. Well, do you know?

A. No. I don't remember what the sand costs. I just estimated it as a whole.

Q. Do you know what sand costs on the dock in New York City?

A. No, sir. It is a matter of small consequence in this figure.

Q. You could not make any computation, could you, that was reliable unless you did know how much sand was required below the block pavement in the first place, and secondly, how much sand cost, could you?

A. Well, after——

Q. Could you make any exact estimate without knowing those details?

A. I just have doubled the ordinary figure, and as the whole total was only $34,953.00 I did not go into figuring out how much the sand cost or any other small detail.

Q. Oh, no, you have $34,953.30. I am trying to find out whether that was an exact figure or a conjecture on your part?

A. No, it was not a conjecture. It is double the figure we would do it for elsewhere. There is 30 cents a yard; that is what it was.

Q. But you don't know how much sand the City's specifications require, nor what sand costs in New York City?

4110 A. There is sand enough to cover it, I know.

Q. Will you answer the question?

A. I didn't think it was of the slightest importance.

Q. Will you answer the question?

A. I don't know what sand costs in the City of New York.

Q. And do you know how much sand the city's specifications require?

A. No, sir, I don't know what they require on that item of $34,000. I know that it is about double what they——

Mr. MATHEWSON: I move to strike that last part out.

Motion granted.

Q. Do you know how labor in New York City compares with the prices of labor of the same class in Danbury and Asheville and other cities with which you have had experience?

A. They bring the men right from New York, the same class of men they use—"Dagoes." I don't see any difference in the men. They are ordinarily the same men who go back and forth on these jobs.

Q. You think you used the same men the Consolidated Gas Company has on its force, in Asheville?

A. Not the same identical men, but men of the same class.

Q. Don't you know that the Consolidated Gas Company does not use Italians at all in its work?

A. Well, that is where they lose then because they are the best kind.

Q. Well then, the "'Dagoes," as you call them, that you have used, evidently have not been people that have been working in the City of New York, were they, in gas mains?

A. They are very good pipe layers.

Q. I know, but that is not the point at all. I am asking if you know how classes of labor, pipe layers and caulkers and so

4111 forth, compare in Asheville with New York City?

A. I thought we were speaking about common laborers. I am not talking about the caulkers. I stated that I allowed $5.00 a day for caulkers. I allowed $2.50 for a——

Q. Do you know how that compares with the other cities with which you have had experience?

A. Why, it is larger.

Q. Do you know what they have to pay for common labor of different degrees in Asheville?

A. Well, I know they are about the same price, $1.75.

Q. Do you have to pay $1.75?

A. Oh, no, you can get "Niggers" there for a dollar a day.

Q. Now, look a minute at these photographs. Who took these? Did you?

A. I did, yes, sir.

Q. Yourself?

A. Myself.

Q. Who is holding the measure?

A. That is Mr. Cowperthwait, a son of the superintendent of Danbury.

Q. A son of the superintendent of the Danbury Gas Works?

A. Yes, sir.

Q. Don't you know it to be a fact here that when a ditch is temporarily covered, as it appears to be in all these photographs, where it is covered at all, that traffic breaks down the edges of the permanent pavement frequently so that when the asphalt company or the city comes to repave that they have to repave many inches wider than the original trench?

A. That is just what I wanted to show—how much came in of that kind? That is what the photographs are intended to show. It shows the bad places——

Q. That is not paved at all in the photograph yet, is it?

A. No, but it shows the holes there and here it goes straight.

Q. Don't you understand that heavy traffic along the street breaks in the edges next to this covering so that if the repaving is not done for weeks afterwards, as it frequently is not, it is broken down on the edge, so that the repavement includes a much broader
4112 space than indicated here?

A. No, I do not.

Q. You did not know that was the experience in New York City, did you?

A. No, the holes shown in these photographs were made independent of that ditch entirely.

Q. Why didn't you photograph a repaved ditch so as to show how wide the repavement actually went?

A. Well, I was looking for those, been on the inquiry to get such cases as that.

Q. But you could not find one?

A. Well, you have got to find one that is recent because it gets worn in so it would not show in the photograph the limits of the paving, but I did find a place where I saw how much trimming was done to make the fresh edge on the asphalt, and I found that I made an excessive allowance for it.

Q. Didn't you know in many instances, in the City of New York, that the repaving of trenches over 30 or 36-inch mains where the repaving was not done promptly after the filling of the trench, re-

quired a repaving to the width of six or seven feet, due to the breaking down of the edges of the pavement by the heavy traffic?

A. No. I do not figure on anything like that.

Q. Did you or did you not know that that situation existed in the City of New York?

A. No, I don't know it. I haven't seen it.

Q. Did you make any allowance for sheathing or shoring up of the ditch?

A. No, on a ditch that depth I made no allowance, except the exceptional cases of having to shore on account of a deep ditch I included in the ten per cent. I considered ten per cent. a large allowance for such cases.

Re-direct examination by Mr. KIRBY:

Q. Have you made any comparison of the width of trench allowed by you with the width set down in the report of the
4113 Board of Revision relating to the section, "Distribution of Gas, American Gas Institute, Chicago, 1906"?

A. Yes, sir; I compared them.

Mr. MATHEWSON: What is this, cross-examination? If not, how can you refer your witness to the authorities? That is already settled.

Mr. KIRBY: The authority has been referred to.

Mr. MATHEWSON: Not by me.

Mr. KIRBY: You asked him what the pages there was when you were speaking in regard to the weight of the lead used in the joints—referred to by you and the title read by you.

Mr. MATHEWSON: No, sir, not for a minute. I didn't even know the title. That is not competent.

Mr. KIRBY: It is as competent as the other question.

Mr. MATHEWSON: I didn't ask him any question on the subject.

The MASTER: That seems to be so, Mr. Kirby.

Mr. KIRBY: Well, I will put in the answer under the objection, if I may.

The MASTER: Yes.

Mr. MATHEWSON: Exception.

Q. Did you or did you not find the width of trench taken by you as wide as those given in such report?

A. I think with the exception of some of the larger they are fully as wide and some of them wider. The large sizes are slightly less, on account——

By Mr. MATHEWSON:

Q. Your figures are slightly less?

A. My figures are slightly less, on account of the width I saw in use in New York for laying mains.

4114 By Mr. KIRBY:

Q. By the large sizes you mean 30 and 36-inch?

A. No; from 16 up; 24-inch particularly referred to. This is a

24-inch main on the 3-foot width at the ditch on this photograph (indicating one of the photographs marked in evidence).

Q. The average width of such trench as set down in this report to which I have made reference for the 24-inch main is 40 inches, is it not?

A. Yes.

Mr. MATHEWSON: It is 44 at the top.

Mr. KIRBY: And 36 at the bottom.

Mr. MATHEWSON: But 44 has to do with the repaving.

The WITNESS: That is just where the difference comes in. The practice here in New York City is to make it narrower at the top in order to avoid a bill of paving. In the book they make it wider at the top and narrower at the bottom. The paving is not in question. There is an evident desire to avoid large payment for repair of pavement and they cut the pavement just sufficient to let the bell into the ditch. That is about the amount of it. In fact one foreman told me he sometimes cut out for the bell.

Q. Taking these figures and computing them as they are in the table in this report for 24-inch pipe, we have a width on top of trench of 44 inches and a width of bottom of trench of 36 inches. What width of trench did you use?

Mr. MATHEWSON: Doesn't it appear what he used? Is it necessary to go into that?

A. I used 36 inches.

Q. For the 20-inch pipe we have in this table a width at top of trench of 36 inches and a width at the bottom of trench of 32; what width did you use?

A. 30 inches.

4115 Q. In the 16-inch in this table we have width at the top of trench of 32 inches, bottom 28 inches; what did you use?

A. I used 28. The same.

Q. On the 12-inch we have a width at the top of 28, bottom 24; what did you use?

A. 28 inches.

Q. In the 10-inch we have a width at the top of 26, bottom 22; what did you use?

A. 25.

Q. In the 8-inch we have a width at the top of 24, bottom 22; what did you use?

A. 24.

Q. In the 8-inch we have 24 at the top, and 22 at the bottom and your figure was what?

A. 22.

Q. 6-inch, at the top it is 22, bottom 22?

A. Oh, excuse me. It is 24 on the 8 inches.

Q. And for all the other sizes in this table we have a width at the top and width at the bottom of 22; what did you use?

A. 22, I used.

Recross-examination by Mr. MATHEWSON:

Q. So long as the Consolidated Gas Company has to pay the city or the asphalt company for repaving it would be to their interest, would it not, to make the top of the trench as narrow as they could and properly do their work?

A. Certainly.

Q. Now let me call your attention to one or two other things in this book to which Mr. Kirby has referred. See if I quote correctly at page 15:

"Depth of Main. The trench should be dug to approximately the depth at which the main is to be laid, and no fixed rule can be prescribed for the depth at which mains should be laid. In a general way it is governed by these conditions: the question of getting below the frost line, the matter of avoiding obstructions and the question of securing sufficient pitch for drainage. In addition to these the mains should also be laid deep enough to avoid any trouble caused by the jar of traffic on the street. The first three
4116 conditions are purely local, and the frost line has been given as five feet deep for 30 degrees below zero. In order to be below the jar of traffic the pipes should be laid to cover at least three feet deep in large cities where there is heavy traffic and 30 inches in the small town."

Have I quoted correctly from this same book?

Mr. KIRBY: Objected to on the ground that if the other question was incompetent, I think this is incompetent.

The MASTER: It will be allowed.

Mr. KIRBY: Exception.

Q. Did I quote that correctly?

A. I think it is a correct quotation. I differ in regard to the jar of traffic on asphalt pavements.

Q. That is quite obvious, but I merely ask you if this was a correct quotation from this authority, and you say yes, and that is all I have to ask on it.

A recess is now declared to 2.15 P. M.

4117 After Recess.

WILLIAM J. LOGAN, called as a witness in behalf of the defendant, the State of New York, being duly sworn, testified as follows:

Direct examination by Mr. PAGE:

Q. Mr. Logan, what is your occupation?

A. I am president of the Logan Iron Works.

Q. How long have you been connected with the Logan Iron Works?

A. Since 1868.

Q. What particular line of business does the Logan Iron Works do?

A. Contracting and general iron work for oil and gas, boiler works, pipe work.

Q. Do you or does that company build tanks and holders?

A. We build tanks and holders and purifiers, condensers, wrought iron pipe; we have built roofs and smoke stacks, boilers, oil tanks and general appliances.

Q. For how long a time have they built those various appliances of which you have just spoken?

A. Ever since I have been with them and before.

Q. Have you been connected at any time with any gas companies?

A. I was director in the Williamsburg Gas Company and Brooklyn Gas Company and Citizens Gas Company of Brooklyn.

Q. But you have, I understand, never had anything to do with the operation of a gas plant?

A. No.

Mr. MATHEWSON: That is not the present Brooklyn company?

The WITNESS: No, the present company is the Brooklyn Union Gas Company.

Q. You were connected with the three companies you mentioned prior to their consolidation with the present Brooklyn Union Company?

A. Yes.

4118 Q. Have you visited the works of the Consolidated Gas Company?

A. I have.

Q. And made an examination of their plant?

A. Yes.

Q. And at such examination or during such examination you made an estimate upon the value of a certain portion of the apparatus?

A. I did.

Q. And as I understand, you did not make a valuation of the buildings?

A. No, I did not.

Q. Nor of the generators for the water gas plants?

A. I made no estimate myself an anything except such as I would be prepared to qualify for reproducing at the price new, and then only in regard to—there was a great deal that I could have made estimates on that I did not do, that was in conjunction with the buildings; roofs, for instance.

Q. Now, in the course of your investigation you visited the 18th Street station or plant of the Consolidated Gas Company?

A. Yes; I did.

Q. For what purpose is that station now used?

A. From general appearances and from what Mr. Riblett told me, the man in charge, only as a distributor station and holder station; there were some repairs going on there, repair shops and so on.

Q. Some portion of the premises used as a repair shop?

A. Yes. There is a small experimental gas works there that was not working, but Mr. Riblett told me that they did use it for testing coal.

Q. Well, outside of the machinery and apparatus necessary for the distributing station and the repair shop and this small experi-

menting gas station, did you find any other portion of the gas works on those premises?

A. Oh, yes; there is a large purifying house and lots of benches and exhausters and scrubbers and many things of that kind, but they were not in use.

Q. Are you sure about there being benches there?

A. At 18th Street?

4119 Q. At 18th Street?

A. Quite sure. They are not on that schedule.

Mr. MATHEWSON: We found we omitted some things from the schedule after we got through, and that is probably one of them. They are not very extensive, but there are a few things.

The WITNESS: It was only that I might not make a mistake, but I remembered that one end of the house wash gone, that was over the benches, and the benches were all there and condensers and scrubbers and engines and a lot of other things, practically a complete gas works.

Q. You say one end of the building in which the benches were situated was torn out?

A. Yes.

Q. And a portion of the benches had also been taken away?

A. I did not pay attention particularly. There were some that looked as if they had been dismantled in the end towards the river.

Mr. MATHEWSON: Everything that the City took has been taken down, I am told, by Mr. Bradley.

Q. What portion of this 18th Street plant did you particularly value, Mr. Logan?

A. My recollection is only the holders.

Q. Now, will you describe the holders that are there?

A. There are two holders in the house and four holders out in the lot, I think, between 19th and 20th Streets, uptown, and towards the river, that are in the house.

Q. What are the sizes of the holders that are in the house?

A. I did not measure them.

Q. I mean by capacities?

A. Well, I was governed by the capacity given here, 205,000 cubic feet.

4120 Q. You assumed the measurements and capacity as given by Mr. Mayer to be correct?

A. I did.

Q. Now, what do you say is the value of those holders, what would it cost to reproduce them new?

A. The two holders in the house, I valued to reproduce just the holders and the tracks and the guide rails and the columns there of wood and the bottom rollers, for $19,000. The four holders I estimate that to make new of equal capacity——

Q. The four holders are 255,000 cubic feet capacity?

A. Yes, the four holders new with columns of modern construction and holders to correspond in size and description with these with tank iron work and inlet and outlet carried to the drip, at $72,000.

Mr. MATHEWSON: Does the witness include in that the inlet and outlet connections?

The WITNESS: Yes.

Q. Now, these two holders, Mr. Logan, are enclosed in a brick building?

A. Brick and brownstone front.

Q. Yes, brick and brownstone trimmings or front building, which Mr. Mayer values at $155,784. Do they now build buildings around gas holders or in which gas holders are kept?

A. I do not think they do in the United States any more.

Q. And if you were called upon to reproduce or to build gas holders of these capacities you would surround them with an iron frame, wouldn't you?

A. Yes.

Q. What would that iron frame cost which would take the place of this building valued at $155,784?

A. Well, I am only guessing at that; I should say about $6,000 or $7,000 apiece.

Q. Would it be good engineering practice to build holders of that small capacity now, where you need the storage capacity that they use at 18th Street?

4121 Mr. MATHEWSON: If the Master please, I do not wish to interrupt the counsel, but I wish to object to this as immaterial and irrelevant. The plant which we now have has been built up and is the one which must be taken into consideration.

Mr. PAGE: Oh, not necessarily.

Mr. MATHEWSON: That is my view, and I wish to object to that and similar questions as to any hypothetical or ideal plant, without interrupting each time.

The MASTER: Yes. I will overrule it.

Mr. MATHEWSON: May I be considered as having an exception without interrupting each time?

The MASTER: Yes.

A. I think not.

Q. What size holders could you put upon this ground space that they have at 18th Street devoted to holders, and what would they cost?

A. You could put two holders to get the most possible capacity, I should say you might get close to 600,000 feet each. You could put up 500,000 feet, I know.

Q. That is upon the ground that is occupied by the two holders now of 205,000 feet?

A. That is right.

Q. How much would one such holder cost to erect?

A. Well, a 500,000 cubic foot holder there would cost in the neighborhood of between $45,000 and $46,000.

Q. Would that be with the tank?

A. That is with the tank.

Q. And that would be with a steel tank, would it?

A. A steel tank.

Q. And in giving the values which you have given you have not valued the tank because these are in brick tanks?

A. These are in brick tanks.

4122 Q. How about the four holders of 255,000 cubic feet capacity, would you now build larger holders, and what would they cost?

A. Well, I think that on that ground you could put up a 5,000,000 foot holder and tank.

Q. In place of the——

A. Of the four 255,000 feet capacity tanks.

Q. In place of the four which are 1,020,000 altogether?

A. Yes.

Q. It would be more economical to have one holder of a million capacity than four holders of 255,000 capacity?

A. That is to build?

Q. Yes.

Mr. MATHEWSON: Do you mean in construction or operation?

Mr. PAGE: Yes, in construction.

A. In construction it would be very much cheaper to have one of one million feet.

Mr. MATHEWSON: Per thousand of capacity?

The WITNESS: Yes.

Q. Well, do not let Mr. Mathewson lead you off into strange ways. I asked you whether it would be cheaper to build one holder that would hold a million feet than four holders holding 250,000 feet each?

A. It would.

Q. Without any regard to unit of capacity. Did you value anything else at the 18th Street Works?

A. I think not.

Q. Well, the 18th Street station is not used now as an operating plant for the making of gas, is it?

A. Not that I could see.

Q. Did you also visit the 14th Street plant of the Consolidated Gas Company?

A. I did.

Q. That is a coal gas manufacturing plant, is it not?

A. It is.

4123 Q. And as a manufacturing station is that a modern up-to-date plant or not?

Mr. MATHEWSON: Is the witness qualified as a gas expert, I mean in the sense that he can answer those questions? It seems to me, not.

The MASTER: Senator Page, what do you think about that? There may be some question about it. He testified that he manufactured various kinds of gas machinery but never managed a gas plant and he says he was a director in several companies. Do you think that qualifies him?

Mr. PAGE: I will withdraw the question. I will not press it.

Q. What portion of the plant did you examine, or, you might begin and state what is the first item in that plant that you examined?

A. The first one here is one T. F. Rowland, boiler 60 inch by 16, 8 h. p. boiler it is here; I valued that at $1,800.

Q. Did you include in that valuation of $1,800 the Clarke Steam and Fire Regulator which was separately valued by Mr. Mayer?

A. I did.

Q. What was the next you valued?

A. Cast-iron tank, 32 by 48 by 4 feet 6 inches, over boiler house forming roof. I did not see that. I estimated that from this sheet, and took an average thickness of 5/8ths of an inch thick, and I figured that that is worth $2,500.

Q. The next is a large purifier house?

A. The next is two condensers, two rectangular tubing, cast-iron——.

Q. What value did you place upon that?

A. $26,000.

Q. I believe in the large purifier house there are two sets
4124 of purifiers that you practically agree with Mr. Mayer in regard to the value. Is that right?

A. Yes.

Q. And also in the small purifier house, that you practically agree and accept his valuation?

A. Yes.

Mr. PAGE: Mr. Mayer's item for the large purifier house is $46,-432 and for the small purifier house $15,987.

Q. What is the next?

A. Two tower scrubbers.

Q. The small boiler house comes before the scrubbers, locomotive boilers 35 h. p.?

A. Yes. I valued that at $1,400.

Mr. MATHEWSON: Which house is that?

Mr. PAGE: Small boiler house.

Q. You valued the locomotive boiler 35 h. p., 5 ft. diameter, of shell by 14-7 sixty 3-inch tubings, at what?

A. $1,400.

Q. Now, the tower scrubbers, Mr. Logan?

A. I valued them at $36,000.

Q. Two tower scrubbers 20 ft. diameter by 84 ft. 2 inches over all?

A. Yes.

Q. Capacity each a million cubic feet per twenty-four hours?

A. Yes. One moment, these should be added (indicating).

Q. You did not take that into consideration when you made that valuation?

A. No.

Q. Just take those matters into consideration. As I understand it—what was it, the water tank and wheel?

A. The water tank and inclosed circular stairway are not included in this rate.

Q. Supposing you take your pencil and figure that and see. I call your attention to that and ask whether they are in?

A. I figured away at the scrubbers here at 602,000 pounds at 6

cents, which is a fairly high price, making $36,000. Now,
4125 to that should be added the weight of the tank, that is 14 feet diameter, [illegible] would be 157 feet in the bottom and 132 feet on the sides would be 289 feet, and I suppose that is ¼ inch. If it was quarter inch there with an angle iron top and bottom and flanges and all that sort of thing, it would weigh 4,500 pounds which at 6 cents would be $210. The inclosed circular stairway between scrubbers, I would say, guessing at it would be in the neighborhood of $3,500. That would add $3,710 to that, would make it $39,210.

Q. This tower scrubber is constructed with a double shell. Is that the usual way of constructing a tower scrubber?

A. I don't know. I have never built a tower scrubber. The ordinary scrubbers are not constructed with an inner shell. The tower scrubbers I don't know.

Q. Tower scrubbers, does it mean an upright scrubber or is it for a man's name?

A. No, because it stands upright.

Q. The air condenser, is that the next thing in the retort house that you valued?

A. Yes, one air condenser.

Q. What did you find the value of that?

A. $16,000.

Q. And on that you are $120 higher than Mr. Mayer?

A. Yes, sir.

Q. What is the next thing that you valued?

A. Wooden tank in the yard, two tanks 14-10 lower diameter by 12-10 upper diameter.

Q. I think before we come to that there is the boiler and engine house. Did you not state to me that you thought those figures were right?

A. All I said was that the 55 vertical boiler 4-8 diameter by 11 feet shell 160 2-inch tubes valued by Mr. Mayer at $713 was about right. Then there was another one, 37x6-9, I have no figures here but I think I put that in at $275.

4126 Q. Now vertical boiler 37x6-9, 66 2-inch tubes, 13 H. P. you valued at $275, is that right?

A. Yes.

Mr. MATHEWSON: Does he value this 150 H. P. cylindrical engine following the boiler?

Mr. PAGE: No, not the engine.

Q. You build *tracks*?

A. Yes. That is $37, isn't it?

Q. $73?

A. Well, $73 if I remember right, that is not out of the way. It is low, if anything.

Q. You referred to the other boiler house. It follows the well house?

A. Well house, one boiler 4 Ft. x 10, yes, that is all right.

Mr. PAGE: He agrees with Mr. Mayer's valuation as to the contents of that boiler house. One boiler 4 ft. x 10 ft. 3, 20-H. P.;

and an 18-inch sheet iron stock, 15 ft. high; 1 Clarke and pressure gauge, being $589 for the boiler, $37 for the stack, $15 for the Clarke and $8 for the pressure gauge.

Q. Is there anything else before you reach——
A. I didn't say anything.
Q. There is another boiler, $2,720.
A. Two boilers, oh, yes. If those boilers are any good they are worth more than that.

By Mr. MATHEWSON:

Q. $2,720 and $234?
A. Yes.

By Mr. PAGE:

Q. Then you will accept Mr. Mayer's valuation?
A. Yes.

Mr. MATHEWSON: Don't you think where he cuts down Mr. Mayer's valuation where he thinks they are worth less that he
4127 should add in cases of this sort where he thinks they are worth more?

Mr. PAGE: I suppose Mr. Mayer made a careful examination and found they were not as good as they should be.

The WITNESS: I have endeavored right along to give the prices at which I would make new ones for, and I would not make those new ones at any such figures as that.

Q. Now, proceed.
A. Wooden tanks. Same objection on that. I have got them down at $3,000.
Q. Yes; you value them at $3,000 and Mr. Mayer had the value at $2,600.
A. Next is six holders, 345,500 cubic feet capacity; I value them at $180,000; $30,000 apiece. Two more holders, 250,000 cubic feet capacity, I valued at $40,000.
Q. Mr. Mayer values those at $152,000, isn't that right?
A. I have made my prices fit what I would be willing to duplicate them for. The next is one large holder, 3,250,000 capacity; I valued that at $225,000.
Q. The large holder is in a steel tank?
A. Yes.
Q. And that valuation which you give includes the holder, guide frames and tanks?
A. Yes.
Q. These prices that you have given upon the holders are what it would cost to reproduce the holders new?
A. Yes.
Q. On the same ground that is occupied by the six holders of 345,000 cubic feet capacity, how large a holder could you build?
A. You could build one 5,000,000 foot and you could build in place of the other two, one alone of a capacity of half a million or

perhaps 600,000 cubic feet. That is of the six, where the six are located.

Q. Now, the holders of 250,000 cubic feet capacity, where are they situated?

A. Well, I only saw one holder there. I asked where these
4128 were and Mr. Liblett said up at 18th Street, and I only could see one holder there.

Mr. MATHEWSON: There are two there on the same ground, on the same block.

The WITNESS: I only saw one, going up in the car. It may have been shut out from my view in some way. I looked and saw only one. Mr. Liblett said so.

By Mr. MATHEWSON:

Q. Your estimate is on the theory that there are two there?

A. Yes, sir.

By Mr. PAGE:

Q. All these holders at 14th Street, are they of recent construction or have they been built some years?

A. They have been built a great many years, except the three million and a quarter.

Q. Now, these old holders that you value at $220,000, the eight holders together, that would reproduce those holders new to-day?

A. It would.

Q. And that is the value that you put upon them?

A. Yes.

Q. And of course the new holder would have the additional life as compared with the expiration of time since the old holders were put up?

A. It ought to..

Q. How much less than the value of the holder as reproduced new, do you think, the holder is as it stands there to-day?

Mr. MATHEWSON: Has the witness made such an examination as to testify to that? I understood him to say he observed them in passing by on the car.

4129 The WITNESS: No; that is, it was the two on 17th and 18th. No, I walked on the street the first time I was there.

By Mr. MATHEWSON:

Q. Where is it you are talking about?

A. 18th Street, the two small holders, and when I went by I thought I just looked up to see if the holders were there and the next time I was going up in a car and I thought I only saw one. That was in fact only yesterday.

Mr. PAGE: Now, may we have an answer to my question?

By Mr. PAGE:

Q. (Question repeated as follows:) How much less than the value of the holder as reproduced new, do you think, the holder is worth as it stands there to-day?

A. I would not want to say. If I knew the life of the holder and knew the number of years that it had been in use I could proportionate it. It is difficult to say.

Q. Now, we will take up 42nd Street, I think that was next in order. What is the first valuation you made there?

A. Eight purifier boxes, 20 feet by 3 feet deep——

By Mr. MATHEWSON:

Q. In what house is that?

A. Purifier house.

By Mr. PAGE:

Q. 20 by 22 by 3?

A. Yes.

Q. And these wrought iron covers?

A. Yes, $40,000.

Q. What about the next four purifier boxes?

4130 A. Four purifier boxes, 16 by 27 by 3 feet 6, $20,000. Next, four purifier boxes, $3,000.

By Mr. MATHEWSON:

Q. That includes the covers in each instance?

A. Yes.

By Mr. PAGE:

Q. What next did you value?

A. Next are two scrubbers, 8 feet diameter, 18 feet high, $3,000. This is not a copy of the original, and I know I made a price on that multi-tubular condenser. I can make it now or give it later.

Q. Well, give it now?

A. It has not the length of tubes here. I suppose they would be about 12 feet long for that size condenser, or 12 feet 6, 1,040 tubes. I would not care to give that answer yet. I want to be careful about it. It has not the length of tubes nor the size of connections. In a general way, though, I should say that that was——

Q. What is the next thing you estimate?

A. The next thing is one air condenser.

Q. How much did you value that at?

A. $12,000.

Q. Did you include in that valuation the two cast iron floors carried on steel beams?

A. Yes.

Q. How much would be the value of those two cast iron floors carried on steel beams?

A. I haven't the particulars here that I had before.

Q. Those Mr. Mayer in his estimate allowed for as part of the buildings?

A. No, I am not sure about that.

Q. What is the next thing? You can get hold of your details and look that up?

A. No, I couldn't have allowed for those floors, there is no data here. It is bracketed in here and I suppose there were, but those are

not my figures where it is bracketed. Next is one cast iron box; I allowed $450 for that.

4131 Q. Cast iron box 7 feet 6 inches by 5 feet 6 inches by 9 feet deep?

A. Yes. These figures were made—to go back, I think that must have been included, judging from this other one, that floor must have been included but I didn't make the figures, all I made the figures on was just the condenser.

Mr. MATHEWSON: Does the witness mean the $12,000 were the figures he made and that they do not include the floors?

The WITNESS: It would seem to me as though they included the floors. I didn't make all these figures myself, that was done in conjunction with someone else, and these figures were put down by him. I figured on my part of the work and it is so much in excess of the other that is down here that it looks to me as though they must be included, floors and all.

Q. What is the next thing you estimated on?

A. One multi-tubular condenser 42 feet 6 inches by 5 feet by 14 feet high, 576 4-inch cast iron tubes, $4,000.

Q. What next?

A. There are a number of these things on which I put prices that are not down. I will have to leave those and put them in afterwards, containing those boilers.

Q. Get your data together this evening?

A. I would have to re-estimate them, that is all I can do.

Q. Well, re-estimate them. Go on and give what you can?

A. Under the head of tanks and scales, 1 tank, 5 feet diameter 25 feet long, ¼ seal; I have down at $1,200. The next seems to be gone, too, two wrought iron tanks 9 by 30, 8 feet diameter, 25 feet long, one 30 by 21 feet high, two 31 foot tanks, 1 wrought iron tank, 5 by 25. I will have to make that, too, later.

4132 Q. Return to the holders?

A. Yes, 4 holders 250,000 cubic feet capacity, $120,000.

Q. What would a million foot holder cost, and could you erect a million foot holder on the land space which you have there at 42d Street?

A. I think you could erect five million feet. The million foot holder would cost roughly $90,000.

Q. And you would have the same capacity that is covered now by the four holders?

A. You would.

Q. Would that be for the holder alone, or for the holder and tank, $90,000?

A. It would be for the holder and tank. Well, you had better say $100,000.

Q. Well, which?

A. Well, let it go at $90,000. I will build it for $90,000.

Q. And that is against $223,000 as the present holders and tanks were valued by Mr. Mayer?

A. $223,590, tanks and holders.

By Mr. MATHEWSON:

Q. You do not value, however, the brick tanks here?
A. I have not valued them, no.

By Mr. PAGE:

Q. Take next 44th Street. This is a water gas manufacturing plant, is it, of the Consolidated Company?
A. It is.
Q. You might state what part of the apparatus you have appraised?
A. Well, the same as——
Q. I understand when I say appraised, it is what it would cost to reproduce these identical articles to-day, is that right?
A. Yes. Two scrubbers in the scrubber house, $36,000.
Q. What is the next item?
A. Two rectangular condensers, $28,000.
Q. Cast-iron pipes, 30 feet long, 6 feet 6 wide, 3 feet high?
A. Yes.
4133 Q. What is the next item?
A. Two air condensers, 33 feet long, 7 feet wide, 23 feet high.

By Mr. MATHEWSON:

Q. In what house is that?
A. Under heading of air and salt water condensers. The figure here is $30,000, but I didn't put it down.
Q. Air condensers?
A. I got a record from my office which we got and gave it to the man who put this down and it has probably got mixed with something else, with the change in the present day price. I know that I put a price on these air and salt water condensers, and they will all have to be re-estimated.

By Mr. MATHEWSON:

Q. I did not quite understand what you included in that figure of $30,000, two air condensers. I find them here and one salt water——
A. No, I only referred to the air condensers. The figures are right opposite that and only opposite that alone.

Mr. PAGE: He will go over his figures. He does not seem to be very well prepared on that, and I will go to the holders and spend the rest of the afternoon on those, at the different stations, until he will get these details of the apparatus straightened out.

By Mr. PAGE:

Q. Turn now to the holders at the 44th Street station?
A. Four holders, $140,000.
Q. Of 375,000 cubic feet capacity?
A. Yes, sir.
Q. Now, one holder 2,000,000 feet capacity, two lifts?
A. $120,000. Next, two holders at $18,000, $36,000.

Q. The next is 99th Street, turn to the holders of the 99th Street station if you have them.

4134 A. Two holders, 600,000 cubic feet capacity, $70,000; one holder, $300,000 cubic feet capacity, $26,000.

By Mr. MATHEWSON:

Q. Do you mean $70,000 each?

A. No, for both.

Q. For two 600,000 feet, the two together for $70,000?

A. Yes. One holder, 100,000 cubic feet capacity, $12,000.

By Mr. PAGE:

Q. Is that all that there is?

A. That is all I see. I think that is all that there is.

Q. Now, we will take the 63d Street.

A. One No. 3 holder, $160,000.

Q. 65th Street, take that next?

A. Two holders, Nos. 1 and 2, each 325,000 cubic feet capacity, $52,000. Four holders, Nos. 3, 4, 5 and 6, same capacity, $104,000. Two holders, Nos. 7 and 8, each 4,000,000 feet, $400,000. That must be the total.

Q. Now, take the 111th Street station.

A. Two holders, each 5,000,000 cubic feet capacity, at $325,000 each; $650,000 for the two.

Q. Did you include in that 111th Street the connecting bridge and iron work?

A. Yes, sir.

Q. The next, I believe, is 132d Street, is it not?

A. 132d Street, I have $322,000 for the holder.

Q. That is practically a new 5,000,000 cubic foot capacity holder, 5 lifts?

A. Yes, sir.

Q. And what did you value that at?

A. $322,000.

Q. Now, we come to the Inwood, I believe, the last of the holder stations. That is one holder of 60,000 cubic feet capacity, 2 lifts?

A. I cannot make out whether it is $8,200 or $9,200, whether the eight is on top or the nine is on top.

Q. When you were there was this holder in use?

A. It was not.

Q. From the appearance of the tanks and the works would

4135 you say that it had been in use in some time?

A. I would not, there were no works there to amount to anything.

Q. Well, by the works I mean whatever pumps or engines they had there?

A. Yes.

Q. And would you for any purpose now build a holder of that capacity or size at Inwood, for any use whatever?

A. For the Gas Company's purpose?

Q. Yes.

Mr. MATHEWSON: I object to that, the witness being incompetent to testify on that subject.

Mr. PAGE: He can say whether he would put up a toy thing of 60,000 cubic feet capacity at Inwood.

The MASTER: I will allow it.

Mr. MATHEWSON: Exception.

A. I think not.

Q. Have you valued this Inwood holder?

A. I am inclined to take the lower figure, $8,200, for it.

Mr. MATHEWSON: Had you not better find out surely?

Q. That could be very quickly ascertained, could it not?

A. If Mr. Bradley will tell me what pressure it throws, I can tell you.

Mr. BRADLEY: I don't know that I can tell you offhand.

The WITNESS: It would not throw over 2 inches.

Mr. MATHEWSON: Pressure for gas installation, 6 inches.

The WITNESS: It is worth more than that, then.

Q. Two lifts?

4136 A. I don't care about that. The 6-inch pressure is all I want and the diameter. I would build that to-day for $5,200.

Q. But, as a matter of fact, if you were reproducing a gas plant in the City of New York you woul not rebuild it at all, would you?

A. I would hardly think so.

The MASTER: If you have come to a convenient place we will suspend until 10:30 o'clock to-morrow morning.

Mr. PAGE: Yes, we have finished the holders.

Adjourned to November 23d, 1906, at 10:30 A. M.

Last Exhibits:

Complainant's, 256.
State's, YY.
City's, 63

4137 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, FRIDAY, *November* 23, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Page, Mr. Kirby, Mr. Burr.

4138 Continuation of the direct examination of WILLIAM J. LOGAN.

By Mr. PAGE:

Q. Do you desire to make a correction in your testimony, Mr. Logan?

A. The two million holder at 44th Street I got too low, at $100,000. They were just rough figures last night, and I would not care to say, under present conditions, I would build that for less than $120,000. That was the only thing I noticed. There are some others. The air condenser, the figures marked on my memorandum was $30,000, and I said when I gave that that I thought it was entirely too high. That is under the heading of air and salt water condensers.

Mr. MATHEWSON: Two air condensers, $30,000; what is the correction?

The WITNESS: I find our contract price for that was $14,770, and that it would be about the same price to-day. And then, also, I want to correct on the holders at 21st Street——

Q. Well, I think we struck out all the testimony in regard to that. If you will take up the holders at 21st Street, and give them. Four holders, each 400,000 cubic feet capacity, three lifts, diameter of outer section 88 feet, sixteen cast iron columns. What value do you place on them?

A. $182,000.

Q. Now, the holder of 1,500,000 cubic feet capacity?

A. $94,000. These figures are indistinct, and I have not had a chance to go over them, but that is approximately about right.

Q. You gave it before $84,000.

A. $84,000, was it?

Q. Yes.

A. Well that is a little bit low. The figure here I could not make

out whether it was a seven or a nine. $94,000 seems a little
4139 high; not very much. I would say in going over these things to make these present prices I have had less time to go over the whole of them than I would want to make an approximate estimate even on any one, and in order to follow this out, so I would be willing to carry out this contract price, I would have to give it at that price rather than change it.

Q. Do you want that to stand at $94,000?

A. I would prefer to have that $94,000.

Q. Turn over to the next holder—holder, 149,500 cubic feet capacity?

A. Without the inlet and outlet pipes, $35,240. The inlet and outlet pipes—this I took from our estimate of the weights, but the inlet and outlet pipes were both in one contract for $4,000. For the next holder, it is marked one and one-half million capacity, but it is not as much as that. That is $40,500. Inlets and outlets for both of them, $4,000. It would be fair to divide that equally between them, I suppose.

Q. That includes the steel tanks?

A. That includes the steel tanks, holders and guide frames.

Mr. MATHEWSON: Would it be fair to add $2,000, then, to each of the holders?

The WITNESS: I think so.

Q. That includes the steel tanks?

A. Steel tanks.

Q. That is all the holders at 21st Street, is it?

A. Yes.

Q. Now 42d Street; I believe there were some tanks that you wished to figure, were there not?

A. I am not sure what station it was; there were some I did not give. Yes, it was 42d Street.

Mr. MATHEWSON: The witness gave 42d Street.

Mr. PAGE: I know; but there were some tanks there that he said were to be figured.

The WITNESS: It is under the heading of oil and tar storage tanks.

4140 Q. You did not give any figures on that?

A. I did not give any at all. The first two wrought iron tanks, 9 feet diameter by 30 feet long I have averaged 5/16 of an inch thick, at $1,680. Eight tanks, 8 feet in diameter by 25 feet long, at an average of 5/16 of an inch thick, at $4,800. One wrought iron tank, 30 by 21 feet high, $2,440. One wrought iron tank, 5 feet long by 25 feet diameter, $325.

Mr. MATHEWSON: Is there any objection to the witness giving the thickness?

The WITNESS: The average thickness is one-quarter inch.

Q. What about these other tanks? Did you value those, these wooden tanks?

A. I did value the wooden tanks in my original estimate. I can

do that now. (After referring to paper.) It does not give any depth to them, so I would not be able to. It only gives 31 feet tank, and does not say what that 31 feet is.

Q. The one above there, 38 feet by 15 feet 6 inches?

A. One wooden tank 38 feet by 15 feet 6 inches, I would say that price is about right for that.

Q. That is, $540?

A. $540.

Q. Now, if you will turn to the 44th Street station, one stone water condenser?

A. I made an estimate on that, but it is not here.

Q. Well, can you make one now?

A. Yes, but it would take some time.

Q. How long?

A. And there is another following it, and I would have to make the same. I would say, roughly, that those prices are about right, from my general experience of those things.

Q. Well, take up the next thing—water tower?

A. Marked here as $3,000. That is too high.

Mr. MATHEWSON: What is it we are talking about?

4141 The WITNESS: One water tower tank 20 feet diameter by 20 feet high, ⅜ and ¼ inch.

Q. It says above there "all."

A. When we made these figures together that duplex pump was in there at $3,000. That tank would be worth, assuming it to be ¼-inch bottom——

Mr. MATHEWSON: Will you give us the tank, because there are several here? Is this the one under water towers?

The WITNESS: One under water towers, continued.

Q. One 20 feet diameter by 20 feet, ⅜-inch and ¼-inch shell?

A. $1,200 is not out of the way for that at all.

Mr. MATHEWSON: Well, the estimate was $1,333, without depreciation, as the original cost. $1,200 was after ten per cent. depreciation was taken off.

Q. What price did you give?

A. I said $1,200 was not out of the way.

Q. Now, what was the next thing you valued at 44th Street?

A. The oil tanks under ground; I gave $17,500 for them.

Mr. MATHEWSON: How many are there of them?

A. Seventeen? Do you understand, I have made these on a basis of what I would take it and reproduce them for to-day, as nearly as possible?

Q. Then there is another oil tank below there. What is the value of that?

A. One tank, 8 x 30, that is $1,000.

Q. Now, there are some steel tanks right below?

A. Three tanks, one 10 x 7 feet, one 6 x 10 x 4 feet, and one 6 x 10 x 4 feet 7 inches, $800.

Q. Now, what is the next?

4142 A. The next that is down here is storage tar tanks; the value here is $4,000. That is entirely too much.

Mr. MATHEWSON: You mean down on your memorandum?

The WITNESS: Yes. There were only three tanks, 6 x 8——

Q. Before you get down to that, there are some more tanks.

A. There is no value on this, although I know I made a figure on them. Roughly speaking——

Mr. MATHEWSON: Which are we talking about now?

The WITNESS: No. 6 and No. 9 oil tanks, 40 feet diameter by 16 feet high, constructed of steel, set in circular pit, capacity 150,000 gallons each. I figure those as of an average thickness of 5-16ths, and they would be worth $2,700 apiece.

Q. That is $5,400 for the two?

A. $5,400 for the two.

Q. Now will you figure the three storage tanks constructed of wrought iron.

A. The size of tanks marked here is 10 inches diameter by 6 feet deep. I assume that must be 10 feet diameter.

Mr. MATHEWSON: Yes, it is three storage tar tanks, constructed of iron.

The WITNESS: Yes.

Mr. MATHEWSON: 8 x 8 x 7 feet 6 inches.

The WITNESS: And then below is size of tanks.

Mr. MATHEWSON: 10 x 6 feet.

The WITNESS: It does not say how many of those there are. It says side of tanks, 10 x 6. I can give you a figure for those three, 8 x 8 x 7 feet 6, if you want it.

4143 Q. Yes.

A. Of ¼-inch iron, they would be worth $250 apiece.

Q. That would be $750?

A. $750.

Q. The next item I see according to this figure——

Mr. PAGE: Have you got the number of the fuel oil tanks or benches set inside of corrugated iron buildings? It does not seem to be given in the testimony. It seems there are three.

Mr. MATHEWSON: Three.

The WITNESS: Those will be worth $190 apiece.

Q. That would be $570?

A. $570.

Mr. MATHEWSON: What would that make the total under that?

The WITNESS: $1,320.

Q. Right below there are two steel oil tanks, one 12 feet in diameter by 7 feet high, and one 10 feet diameter by 7 feet high.

A. Of ¼-inch iron, that would be worth $270.

Q. Apiece?

A. One of each, and the one below would be worth $210.

Q. The first one was $275?

A. If there were two of each?

Q. One of each.

A. One steel tank, 12 by 7, would be worth $270. It reads two steel tanks, one 12 feet diameter and one 10 feet diameter.

Mr. MATHEWSON: No, two steel tanks, 12 feet diameter, 7 feet high, and one 10 feet diameter by 7 feet high. There are two of the 12-foot tanks.

Mr. PAGE: That would be $540 for those two, then?

The WITNESS: Those would be worth $320 apiece, $640, and the other would be $210.

4144 Mr. MATHEWSON: And the three would be how much?

The WITNESS: $850 for the three. The next is tar separator system, 54 feet long, 15 feet wide, 6 feet 6 inches thick, 8 compartments—$2,500.

Q. If you will turn to the 21st Street plant now, and kindly let us know what you estimated there?

A. Two 60-horse power locomotive boilers, each 72 tubes. That price is not out of the way, $2,440. The price for the steel stacks is not too much.

Q. What is the next that you value?

A. Round wood tank, $360, is very high. I would not value that at over $200. That is under octagonal valve house, 7 feet by 7, round wooden tank.

Q. The next item that you valued is apparatus—retort house, three salt-water condensers; did you value those?

A. $70,000.

Q. Then there is another one—one similar condenser, in course of erection?

A. I don't remember that.

Q. Well, the value of a similar one would be?

A. One-third, or $23,333.33.

Q. The B. & W. boiler?

A. The last I knew of a B. & W. boiler sold for about—I have known them to be sold as low as $11 a horse power, but that was in big lots. I would say $16,500 was not out of the way for that. The last I heard of a fairly big order was $14.

Q. That would be $30?

A. No, there is a thousand horse power there.

Q. What price did you say then?

A. I would say that that was right.

By the MASTER:

Q. Two Babcock & Wilcox boilers, 500 horse power each?

A. Yes. And the Altman-Taylors are practically the same thing.

4145 Q. Two steel tanks, 7 feet by 110?

A. I should think that that price was about right.

Q. Now we come to some tanks—one round cast-iron tank, 15 feet diameter by 12 feet high. Did you figure on that?

A. $1,500.

Q. And two wrought-iron tanks, 6 feet in diameter by 4 feet 6 inches high?

A. The price would be about right there.

Q. $150?

A. Yes.

Q. What about this wrought iron rectangular tank in the ground, 14,000 gallons?

A. The size is 18 feet by 14 feet, by 9 inches here should be, I suppose, 9 feet.

Mr. MATHEWSON: Yes, nine feet.

The WITNESS: $640.

Q. Now come down to the oil tanks?

A. That price is about right.

By Mr. MATHEWSON:

Q. Won't you give the buildings?

A. It is under "Retort House, 22d Street, continued." One oil tank, 6 feet diameter by 10 feet deep; the price is about right—$176.

By Mr. PAGE:

Q. What do you say about the tank, 10 feet diameter by 30 feet long?

A. For ⅜ metal it would be worth $1,400 apiece.

Q. Ten of them?

A. Ten of them.

Q. $14,000 for the ten?

A. Yes, sir. The next, three-eighths, I assume, that is round tank, 11 by 40 feet long, $1,680. Two wrought iron tanks 8 by 12, ¼ inch, they would be worth $260 apiece; $520 for the two.

Q. Two wrought iron tanks 6 feet diameter by 10 feet high?

A. They would be worth $150 apiece.

4146 Q. $300 for the two?

A. Yes, sir. That is with the ¼-inch shell and bottom.

By Mr. MATHEWSON:

Q. Did you in that estimate include the setting of the tanks in position for work, or is it merely the tank unset?

A. Merely the tank, unset; no connections.

Q. And not transported and set in position?

A. That would be delivered on the sidewalk.

Q. But not set?

A. Not set.

Mr. MATHEWSON: It is not quite possible to compare the figures that the witness gives in that way with Mr. Mayer's estimate, because Mr. Mayer's figure was set.

Mr. PAGE: No. I will ask him to make his calculations with the settings.

The WITNESS: That would be an impossibility, without knowing the conditions of each and every one and how put in. There are some of those that would cost more to put in position than the tanks are worth, according to the location.

Q. These values you give are the values delivered on the sidewalk?

A. For all that may be delivered on the sidewalk. On some of them, some of these that are built in place, those are for in position.

Q. Like the holders?

A. Anything like the holders, that is built in position. Those prices being for put in position.

By Mr. PAGE:

Q. The vertical boiler—did you value that, in shed No. 5, right under your wrought iron tanks?

A. I did not. That is not out of the way for it.

Q. Do you mean that $478 is not out of the way?

A. That is not out of the way.

4147 Q. What is the value of the shaving scrubbers?

A. And there are steel tanks, 20 feet diameter by 30 feet high, 70,688 gallons, $2,000. That is under water power, yard.

Q. Steel tanks, can you give those? Have you those figures. If not, we will pass to something else. Take this new oil tank, 57 feet diameter, 30 feet high.

A. There is no value on that.

Q. You haven't given any?

A. No. All they have got for value there is $3,000 paid on account.

Q. Well, what about that steel tank 7 feet by 20, have you valued that?

A. Yes; $900.

Q. What thickness did you figure that at?

A. ⅜.

Q. Proceed with the others.

A. One steel tank, 20 feet 1 inch by 30 feet 1 inch, 8 feet 8 inches, $2,400; ⅜ metal. Twelve steel tanks 8 by 40, 9/16 inch, $18,000; $1,500 each. Ten steel tanks 11 feet diameter by 39 feet 6, ⅜ steel, $1,800; $18,000. The next are bunched. Steel tank 10 by 9 feet, wooden tank 16 by 15 feet, wooden tank 12 by 15, steel tank 16 by 50 by 2 feet 4 inches, ¼-inch steel; bunched at $3,000.

Q. That is, that is your value on all those tanks?

A. On all those tanks.

By Mr. MATHEWSON:

Q. Two steel and three wooden tanks?

A. Two steel and two wooden tanks.

By Mr. PAGE:

Q. That completes that?

A. Yes.

Q. 99th Street, I think, is the next (page 1535)?

A. $8,745 for air condenser outside of generator house.

Q. Now the salt-water condenser, cast-iron, in four sections, 31 feet long by 4 feet wide by 15¾ inches high?

A. $10,000.

4148 Q. Two 10 feet diameter by 24 feet high scrubbers, wrought-iron construction?

—. $18,000.

Q. In that valuation, do you include both the condenser and scrubber?

A. Certainly. Two 10 feet diameter by 24 feet high scrubbers and two 24 feet 3 inches by 5 feet 2 inches by 15 feet condensers.

Q. Now the tar separating system in the yard?

A. $2,400.

Q. Now the tar storage tanks?

A. Three tar storage tanks, 8x8x8, $720. Next 12 steel tanks, 8x40 feet, $14,400. Two steel tanks, 8 x 60. Oil storage tanks I have got down here, $3,600, but that is evidently wrong. I will have to figure that again.

Q. Well, figure it now, please.

A. No, sir, that is right—$3,600. One drip well tank, $728. Two hot scrubbers, 21 feet high, 8 feet 6 in diameter, $1,920. Two hydrogen scrubbers, 22 feet high, $1,680.

Q. Those are out of commission, those hydrogen scrubbers, aren't they?

A. I believe so. They are so marked.

Q. And the hydrogen scrubber was a part of the old *Tessie du Motay* system that has been abandoned for a great many years, wasn't it?

A. I believe so.

Q. The next item you valued there was what?

A. Boiler house, nothing there. Sturtevant blower, pump, water feeder—those you would have to buy or get quotations on. I did not value those. Next is miscellaneous tanks, one discharge, boiler feed tank, overflow tank, gas oil tank, one fuel tank, one gas oil tank; $1,200 for the bunch.

Q. Is that all?

A. That's all.

Q. Is there anything you valued at the holder stations beside the holders?

A. I am not sure.

Q. Take a look at 63d Street?

A. I don't think there is anything there except the holder that I valued.

4149 Q. There is nothing that you valued at 63d Street, then?

A. Nothing beyond the holder.

Q. 111th Street next. Under the head of yard: One oil tank, 43x20, ¼-inch, $2,200.

—. I would say that that is a value to make a new tank like that and in its place. As it is situated and not for use it is not worth anything more than scrap iron.

Q. What is it, just thrown out in the yard?

A. I do not recall that just now. No, it is not thrown out; it is in position and all, as I recollect.

Q. Well, if the plant is not being operated, there would be no use of that oil tank in a distributing station, would there?

Mr. MATHEWSON: Isn't that rather a question for a gas expert than a manufacturer of iron work?

The WITNESS: If they are not making gas they do not want any oil tanks. I should make the depreciation about 95 per cent.

Q. It is worth only so much scrap?

A. That is about all. To cut it down, to rebuild it is not worth the value of what the plates would be worth if you were going to rebuild it, and then you would not have a decent thing when you were through. The atmospheric condenser I have here at $4,000. That

same thing pretty nearly applies to that, although the salvage on that would be more.

Q. That is all the apparatus that you valued, is it?

A. Yes, sir.

Q. Now, as I understand it, you were not able to figure the depreciation on these holders because of the fact that the length of time that they had been built was not given: Mr. Bradley has testified that the small holders have been built for forty years or over and that the larger ones have been built within the last twenty years.

Assuming that the small holders have been built for forty
4150 years, would you say that a fifteen per cent. depreciation is sufficient?

A. I cannot say that I know what the life of a holder is.

Q. Well, a fifteen per cent. depreciation——

A. Would indicate a life of 240 years nearly. I hardly think they would last that long.

Q. In the valuations that you have given on holders and on apparatus that could be placed in position, what is your value based upon, the holder constructed and turned over to the company and the apparatus placed in position ready for operation?

A. The holders, large enough to be built in place, to be turned over to them complete. Small tanks and so forth to be delivered on the sidewalk.

Q. But on everything else the price that you have given is the price that you would build it for and turn it over to the company complete?

A. Yes.

Q. Have you taken into consideration in your value of holders and tanks an element of engineering?

A. I have not. That is, it is taken in, of course, but it is included in that price I have named.

Q. In the price named you have included engineering charges?

A. Yes.

Q. So that you would not add to your value, as you have given a five per cent. for engineering charges?

A. No.

Q. What do you say in regard to the necessity of charging interest on the holders?

Mr. MATHEWSON: I object to that. I think that is a conclusion that the witness is not entitled to draw, whether we are entitled to charge interest or not.

Question withdrawn.

Q. Would it be a proper charge for interest during the construction of the holder?

Objected to as a conclusion on which the witness is not competent to express himself.

4151 Mr. PAGE: I will withdraw the question again.

Q. Mr. Mayer has testified you should add five per cent. interest charge to the cost price of the holder. Do you agree with Mr. Mayer in that statement?

A. I do not.

Mr. MATHEWSON: The question was asked whether the company in the construction of the plant was entitled to add to its capital in the plant interest on the money during course of construction, interest which accumulated, and Mr. Mayer added five per cent on that theory, not on the theory that the contractor was to add five per cent. to the price.

The WITNESS: I did not understand it that way either. May I explain? I assume that this five per cent.——

The MASTER: You may explain, if you like. I think Mr. Page is entitled to ask the witness whether or not in getting at his figures he took into account any question of interest on capital during the period of construction, and, if not, to have him state, why not. Knowing that Mr. Mayer did take it into account and did state his reasons, I think this witness should have the same opportunity, and I think we should save time by letting him make his explanation. You may proceed, Mr. Logan, with the explanation you were about to make.

The WITNESS: I think that an allowance to the company should be made for the interest, but not at five per cent., because none of this work would take two years, and the estimate of five per cent. was for one-half of the time. None of this work would take—the
4152 largest sized holder ought to be built in nine to ten months, so that would only make the interest charge at the rate of five per cent. per annum for one half the time, and a great deal of this work could be done in a few weeks, some in a few months, so the interest account would be inappreciable.

Q. Now for the holders, that is, anything under a million-foot capacity—how long would it take to construct the small holders they have got, running from 250,000 to 400,000 or 500,000 cubic feet capacity?

A. Well, under favorable circumstances, up to half a million could be built in three months—you might run into six; but a fair and reasonable time for building up to a half a million feet holder would be between four and five months. For a million-feet holder it would be fair to allow at the outside seven to eight months. It could be completed though in considerably less time if everything went well.

Q. And on a five million holder, how long a time would that take?

A. Well, it would take close onto a year.

Q. And you think it would be fair to add to the price you have given interest at half of the period you have named in each period?

A. I think so.

Q. Now, on the other apparatus that you have valued, would you add anything to your figures for engineering?

A. No.

Q. Or interest?

A. I am outside of the interest question. That is something for the gas company, but I think five per cent. is too much for the gas company to add on that small stuff.

Q. And, as I understand it, all the values that you have given are

of new work, and you have not taken into consideration the present condition of this plant as to depreciation?

A. I have not.

Q. Your figures are to purchase and deliver in place the apparatus and holders new?

4153 A. With the exception of the small stuff delivered on the sidewalk.

Q. The figures that you have given are such as you would be prepared to execute the contract for?

—. They are.

Q. If you were required to figure in competition, would you have given these figures?

A. I think I would have shaded these figures somewhat.

Q. You think you have given full prices?

A. I have intended to, and I think I have.

Cross-examination by Mr. MATHEWSON:

Q. Does the Logan Iron Works manufacture apparatus other than gas apparatus?

A. Yes, sir.

Q. Where are their works located?

A. In the 17th Ward, City of Brooklyn.

Mr. MATHEWSON: I think I will take these in the order Mr. Mayer testified.

Mr. PAGE: The 14th Street station first?

Mr. MATHEWSON: Yes.

Q. Referring to the 14th Street plant, Mr. Logan, you give a valuation for one cast-iron tank, 32 feet by 48 feet by 4 feet 6 inches in the boiler room at $2,500?

A. Yes.

Q. At what weight did you compute that tank?

A. I think, roughly speaking, it must have been 50,000 pounds.

Q. Well, if the weight was 90,000 pounds——

A. It would be $4,500.

Q. Now, referring to the condenser house, you give the valuation of two condensers No. 2 rectangular tubular cast-iron tubes, and so forth, 44 feet by 15 feet by 6 feet 2 inches at $26,000?

A. That is right.

Q. At what weight did you assume that?

A. It must have been 520,000 pounds.

4154 Q. Supposing it were 590,000 pounds weight?

A. 590,000 pounds?

Q. Yes.

A. It would be $29,500.

Q. Did you value the contents of the purifier house?

Mr. PAGE: I think he said he agreed with Mr. Mayer.

Q. Large purifier house, two sets, consisting of eight purifying apparatus.

Mr. PAGE: He gave the valuation on that.

Q. You gave a value for the entire contents of the purifier house and said you agreed with Mr. Mayer, didn't you?

A. I gave $48,000.

Q. And Mr. Mayer's figure was $48,876?

A. It is here $46,432.

Q. That is with the depreciation off, but for cost new you would not disagree substantially with Mr. Mayer's valuation of $48,876, would you?

A. I would not.

Q. And so too as to the small purifier house following, the contents of which Mr. Mayer valued at $16,828 new, or $15,987 after taking off 5 per cent. depreciation; I understand that you would not quarrel with those figures?

A. Of Mr. Mayer's?

Q. Yes.

A. No.

Q. $16,828 new?

A. I would not say that they were too much.

Q. Now, in the boiler house you value locomotive 35 H. P. 5 foot diameter, and so forth, at $1,400?

A. Yes, sir.

Q. Mr. Mayer's valuation was $1,918 without depreciation. What sort of a locomotive boiler did you assume that to be?

A. An ordinary locomotive boiler.

Q. Any special make?

4155 A. Such as we have made ourselves; ordinarily when we have them now we find that we can buy them cheaper than we can make them.

Q. Erie boilers?

A. No, I think you can get an Erie boiler for a great deal less than $1,400.

Q. This is a more expensive boiler than what is known as an Erie in your estimate?

A. Yes, sir, in my estimate I base it on what we would build it for.

Q. Did you inspect this engine yourself?

A. The engine or boiler do you mean?

Q. The boiler.

A. I only glanced at it to get a general idea.

Q. Referring to the yard, you gave a blanket valuation of $39,-210; two tar scrubbers, and a circular stairway; what weight did you assume for the two scrubbers?

A. The weight in the schedule here.

Q. How much is that?

A. 603,262 pounds; I called it roughly 600,000 pounds, at 6 cents a pound.

Q. If the weight of those scrubbers was over 325,000 pounds, that would make a difference in the value somewhat would it not?

A. It would make a difference of $1,500 apiece.

Q. Was your valuation of this boiler a valuation delivered on the sidewalk or at the works of the company, or was it the value installed?

A. Installed, ready for use?

Q. Yes.

A. It was the boiler such as called for there. In *case a* like that we would deliver, if there is a chance for the trucks to get to the place, we deliver at or near the foundation, but we usually call that sidewalk delivery.

Q. Exactly. That is what I mean, but it does not include labor and expense of setting of the boiler?

A. There is no setting of a locomotive boiler.

Q. No, putting it on foundation?

A. That we call placing; the setting means brickwor*d*, if it is enclosed, the room.

4156 Q. You have included no brickwork or anything of that sort?

A. No.

Q. Simply the delivery of the completed boiler?

A. Simply the delivery of the completed boiler.

Q. One air condenser in the retort house annex, you have valued at $16,000 and Mr. Mayer's valuation is $16,335. If Mr. Mayer, after a careful inspection, made that valuation, you would not assume to say that it was too high, would you, $335?

A. I would not say. In ordinary estimates I would say that that was very close.

Mr. PAGE: That is, that Mr. Mayer was nearly right.

Mr. MATHEWSON: Or that Mr. Logan was nearly right.

The WITNESS: If we were bidding for it I would a great deal rather that he was $16,300 and that I was $16,000; I would get the job.

Q. Does this figure of yours for the air condenser in the retort house include the setting of that or sidewalk delivery?

A. That includes setting.

Q. Referring to your valuations under boiler and engine house of one 155 horse-power vertical boiler, $713, that is a figure also for sidewalk delivery, is it not, the same as this case of the other boiler?

A. Did I name a price on that?

Q. $713.

A. I simply said that that was about right; I think I said. I am not sure.

Q. Yes, Mr. Mayer's figures was $713 with three per cent. off for depreciation.

A. $713 is not out of the way, either.

Q. And the $75 for the sheet iron stack, you would not consider out of the way new?

A. No, I would not.

4157 Q. Now, the boiler under the boiler house and well, 37 inches by 6 feet 9 inches, you valued at $275 as against $350 for Mr. Mayer. Your $275 is for sidewalk delivery?

A. Practically sidewalk delivery.

Q. So, too, as to the boiler below, under boiler house 4 feet by 10 feet 3, 20 H.P., which you valued at $589?

A. I did not value it, I said the figures were not out of the way. I do not mean to spar with you——

Q. I understand, you are quite fair. His figures were $607 or 3

per cent. off for depreciation, $589; you would think his figures were about right?

A. His base figures, I could not pass on the depreciation without knowing it; the three per cent.—it might be as good as new.

Q. But his base figures of $607, new, you would not say was out of the way?

A. It is fair.

Q. And I think you said the same as to the 18-inch sheet iron stack which he appraised at $38. Now, under the boiler house later appear two 32 H.P. horizontal boilers which Mr. Mayer appraised at $2,860 and $234 respectively, and I understand you to say that you think those figures are fair?

A. Under the circumstances, may I make a comment?

Q. Yes.

A. That is a very expensive kind of boiler and you do not get the efficacy that you would in boilers of the ordinary type.

Q. But assuming that particular boiler?

A. That particular boiler there is not too high if it were to be duplicated.

Q. Referring now to holders at 14th Street, after giving a valuation for the six holders, you give a valuation for two holders at $40,000. What did you assume to be the weight of those two holders, 86 feet in diameter and 250,000 cubic feet capacity each, the total weight of the entire construction of holders, guide frame and connections which you valued?

A. I am not exactly sure of the divisions of weight. I
4158 figured the holders at 8 cents a pound and the frame at 6 cents.

Q. Do you remember what weights you used for the holders?

A. That is the base, I should say, or figure. What I did was to take an estimate from my books of a 250,000 foot holder throwing about what the usual pressures are. Then there are different pressures——

Q. This threw 4¾ inches. Isn't that a little more than you reckoned on?

A. I think not. I can estimate that, but the frame I could not give you right off.

Q. Supposing you assumed that the holders were 4¾ inch pressure and that the total weight of the structure of holders, guide frames and connections was 730,000 pounds?

A. For the two or one?

Q. For the two.

A. How much?

Q. 730,000 pounds for the holders, frame and pipe connections?

A. It would figure more than $40,000.

Q. It would figure more than $40,000?

A. Yes.

Q. Mr. Mayer gave an estimate of $52,091. Assuming those weights to be accurate and the pressure as I have stated, would not $52,091 be a fairly low valuation?

A. It would not be low, it would be a fair valuation.

Q. Now, let us refer to the holder with a capacity of 3,250,000 feet which you valued yesterday at $225,000. Did you take into consideration that the tank has a double thickness of plate for a height of fourteen feet from the bottom?

A. It has not a double thickness of plate.

Q. Hasn't it?

A. It is two thicknesses of plate, but it is only the normal thickness.

Q. Well, that is what I referred to, two thicknesses of plate. Does not that increase the cost of labor to construct a tank of that sort?

A. It does, but the tank is not as good as if it were one thickness.

4159 Q. But I am asking for the reproduction of this particular tank?

A. It certainly would, it would increase the cost, but it is no benefit to the tank, it is a detriment.

Q. What weight did you assume?

A. I did not assume any weight, at all, because I would not reproduce a tank like that.

Q. No, but——

A. And there are other things besides that. There is double rivetting that I would not use, and the column supports which extent down are not built according to the present practice.

Q. Assuming that tank were to be reproduced as it is regardless of whether you would not build one like that and that it has 7.2 inches pressure, would you not consider Mr. Mayer's valuation of $262,224 to reproduce that new, as it is, a fair figure?

A. I would call that a fair figure for this reproduction, but would call it bad practice to reproduce it.

Q. Forty-second Street, I think, comes next in order. Referring to the 42nd Street plant now, you gave a valuation of $3,000 for four purifiers 7 feet 6 by 10 feet 6 by 3 feet with four wrought iron covers in connection. Did that include connections and supports?

A. I made these figures in conjunction with someone else. I think they included only the connections from the boxes to the center seals.

Q. Did it include the placing of the boxes in position?

A. Oh, yes, sir.

Q. Have you in mind what weight you gave to the purifiers and covers?

A. No, I have not.

Q. Well, assuming that the weight was, say 59,000 pounds, and that it included only the supports and connections, which you think would you then consider that $3,308 for the reproduction of those purifiers and covers was out of the way?

A. I would consider it about 10 per cent. too high.

Q. Even if you included all the supports and connec-

4160 tions?

A. I am taking it, assuming it is 39,000 pounds.

Q. No, 59,000 pounds.

A. No, I would not consider that figure high at all.

Q. You would consider it pretty low, wouldn't you, on the whole?

A. Yes, it is not high.

Q. Under condenser and scrubber house I find your valuation for one cast iron box 7 feet 6 inches by 5 feet 6 inches by 9 feet at $450. What weight did you assume there?

A. For what?

Q. For this box.

A. Which are you referring to now?

Q. Condenser and scrubber house.

A. What are the dimensions, 18 feet diameter by 18 feet high?

Q. No, I am not referring to the scrubbers at all. I am referring to the last item, one cast iron box, 7 feet 6 by 5 feet 6 by 9 feet deep, which I think you valued at $450.

A. That is right.

Q. What weight did you assume for that box?

A. 9,000 pounds.

Q. If the weight were, say, 14,000 pounds?

A. It would be worth about $700.

Q. Will you refer now to the oil and tar store tanks, two wrought iron tanks 9 feet in diameter by 30 feet long, you fixed a valuation of $1,680 and assumed a 5/16th inch shell. What weight did you assume for those two tanks?

A. 28,000 pounds.

Q. 28,000 pounds.

A. For each.

Q. And how much for the eight wrought iron tanks?

A. 80,000 pounds.

Q. And how much for the one wrought iron tank following that?

A. 34,000 pounds.

Q. And how much for the wrought iron tank following that, 5 feet diameter by 25 feet long?

A. 5,500 pounds.

Q. What is the price per pound which you assumed?

A. Six cents.

4161 Q. Can you tell me how that 6 cents was divided up?

A. How do you mean, divided up?

Q. I mean how much for material and how much for labor and how much for setting, or did not this include setting in the case of these tanks, or delivery only?

A. That would include putting them in place for the large ones; not for the small ones.

Q. Can you give me the d[illegible]'s in the same way Mr. Mayer testified, showing what proportion [illegible] the price per pound you assigned for labor, or have not you done that?

A. Not now. I could do it.

Q. Did you figure it out in taking this six cents, or take a general figure?

A. I took a general figure; we are constantly building these things, and all we separate is so many pounds of material at so much a pound, so many day's labor, total so much, at such a rate per day, and add the two together and tack on our profit. And the practice we have to-day, and we are building lots of tanks now to-day, is at

that rate of 6 cents a pound. I give that from experience. It gives a profitable remuneration on those tanks.

Q. You could divide it up as Mr. Mayer did?

A. Of course.

Q. I would like to have you do so at recess, if you have time.

A. That is a matter of days to get that together.

Mr. PAGE: But have not you at your works that computation?

The WITNESS: At our works it is largely, so to speak, a matter of experience. For instance, last year we were building tanks for 5 cents a pound and glad to get them, and then when they fixed an extra price on iron, we have to add on a little more, and we add just as much as we think they will stand without losing the job. To-day it is 6 cents a pound.

4162 Q. But when it gets down you cut your price?

A. Yes, we have to cut them down, but of course we have to have a figure below which it would be unsafe to go; but I would not undertake to go into that as fully as Mr. Mayer has. It would be a matter of days to get that; you would have to take a number of different ones; for instance, while I have taken the same rate for this 5 by 25 foot tank per pound, there would be less money in it for us than there would be in the bigger ones at the same rate. Some of this tank work I have taken, for instance, all the way through at 6 cents. Some of it I would be very glad to build for less than that and some I would want more.

Q. Is there any difference in the expense of erecting a tank in a holder in the ground as compared with erecting it above ground?

A. Certainly.

Q. Which is the more expensive?

A. Building it in a hole.

Q. Assuming that these two tanks weighed, say, 30,750 pounds instead of 28,000 pounds?

A. They would be worth $845.

Q. Supposing the eight tanks weighed about 90,000 pounds instead of 80,000 pounds?

A. They would be worth $5,400.

Q. And if the one tank weighs 48,000 pounds instead of 34,000 pounds?

A. It would be $2,880.

Q. The same way as to the last tank to which I have referred, the five-foot tank, 25 feet long, supposing that weighed 6,500 pounds instead of 5,500?

A. It would be worth $390.

Q. That is on your basic figure of 6 cents a pound?

A. Yes.

Q. Have you based your estimate of 6 cents a pound to cover all kinds of tanks on the average on New York labor conditions as they exist to-day?

A. Yes, sir.

4163 Mr. MATHEWSON: I think we might suspend at this point.

The MASTER: How long will you take after luncheon, Mr. Mathewson?

Mr. MATHEWSON: I do not think I shall take over half an hour with the witness.

Recess until 2:00 P. M.

After Recess.

WILLIAM J. LOGAN, resumes the stand and further testifies.

Cross-examination continued by Mr. MATHEWSON:

Q. We will take up 44th Street next. Were your figures for scrubbers for sidewalk delivery or for scrubbers placed in position?

A. Scrubbers placed in position. That refers to all the scrubbers, I presume?

Q. Yes, at all the stations?

A. At all the stations.

Q. It does not, however, include the foundation for the apparatus?

A. It does not.

Q. And it does not include foundation in the case of any of the apparatus to which you have testified?

A. In no case.

Q. Neither at this station nor at the other stations to which you have testified?

A. There are no foundations in any of the prices I have given.

Q. And no connections?

A. To a limited extent the connections to the outside, in the usual way; such connections as apply are immediately attached to the apparatus itself outside, so to speak, in a general way—outside of the immediate apparatus itself. In the holders that would be the inlets and outlets to the drips, all the foundations and the other
4164 apparatus. Take a scrubber for instance, that takes only the flanges, no connections beyond that, and the same applies to the gas tanks and all that—I do not mean gas tanks, I mean tanks—simply includes flanges and so on to make connections.

Q. And other connections than these which you have mentioned, which are really part of the apparatus used, you have not included in your figures?

A. Well, it has been designated as other connections. In no sense have I——

Q. What price per pound did you take in estimating scrubbers at the various stations?

A. I think six cents, except where—I cannot go all over them.

Q. No, but take the 44th Street station, for instance; the two scrubbers there, which you place at $3,600; how much per pound?

A. Six cents.

Q. And six cents includes both the material and labor?

A. It does.

Q. Taking the two rectangular condensers, 30 feet by 6 feet 6, which you estimated at $28,000, what price per pound did you assume there as a unit?

A. At 44th Street, I don't really know on what that was based. This figure was made on those condensers with all the tubes, and I

think I assumed about the number of tubes that would be in there; probably wrought iron.

Q. You did not examine specifically to determine the number of tubes?

A. No, I could not tell anyhow. The condensers are closed so you could not see them.

Q. Do you remember what weight you assumed for those condensers?

A. My recollections is—I may be wrong about that—it was the same base price, six cents a pound.

Q. Did this include the setting?

A. Erecting in position, yes.

4165 Q. Isn't the material in condensers more expensive than the corresponding material in the scrubbers?

A. You mean the wrought iron tubes?

Q. Yes.

A. I think it is.

Q. Didn't you then allow, and are you sure you did not allow a higher price per pound for the condensers than you did for the scrubbers?

A. I remember that I took the price per foot in making this—I had to estimate about how many tubes there would be in there, in the regular way, and I knew about the price of tubes.

Q. Well, assuming that the entire weight of condensers would figure out say, 375,000 pounds?

A. Including tubes?

Q. Yes; 375,000 pounds; in that event Mr. Mayer's estimate of $31,752 to reproduce the two condensers new would be fair, would it not?

A. At 375,000 pounds?

Q. Yes.

A. At sixe cents a pound that would be—well, it might or might not, I would not be able to tell that without making the figures. I would not call it absolutely excessive.

Q. Do you remember whether you took the same price per pound in estimating the value of the air and salt water condensers at this plant?

A. The value of estimating the salt water condensers, I put in at exactly what I furnished them, and in looking over the price compared with to-day thought it was fair. I would be glad to have a contract at the same price to build them to-day. I would like to duplicate them at that.

Q. And you did not figure at the price per pound in this connection?

A. Oh, yes, I figured the price per pound. I looked at it and compared with the rates we pay to-day and it seemed to me fair and equitable.

Q. Do you remember what the price per pound was?

A. The highest price was eight cents.

4166 Q. And I assume——

A. No, I am wrong. I remember in the elbows that went

over the arch, that join the two together, the price was 10, but that was a small part of it.

Q. And in all the other stations, in valuing similar apparatus, I assume you took the same price per pound?

A. Well, there is only one other station that uses the same apparatus as you are now speaking of, and that is 99th Street; and the most we had in our estimate there was eight cents.

Q. Referring to the contents of "Water tower" one 20-foot diameter by 20-foot tank, 3/8-inch and 1/4-inch steel, Mr. Mayer's estimate of the new is $1,333, and he gives a little lower figure after taking off depreciation. Would you consider that his figure for a reproduction of that tank new was out of the way?

A. And his estimate is how much?

Q. $1,333.

A. I would consider that as no more than an ordinary difference in estimating.

Q. Did you estimate any weight there in determining your value?

A. Oh, yes.

Q. What was the weight?

A. Well, I have forgotten. Roughly, 20 feet in diameter would be 315 feet in the bottom, a little under that, and the sides would be 63½ by 20, which would be 1,270, and 315, call that roughly 1,600 feet, and average it all the way through at 5/16 would be 20,000 pounds and at six cents a pound it would be $1,200.

Q. And if the weight was more than 20,000 pounds I suppose the value would be correspondingly greater?

A. It would.

Q. Referring to the "pump house," two oil tanks, No. 6 and No. 9.

A. Where does that come after this last which we had?

Q. Oh, that it quite a distance on. It is under the heading "pump house, oil tanks."

A. I have it.

Q. You assume them to be 5/8?

A. 5/16.

4167 Q. 5/16 thick?

A. Yes, sir.

Q. And you figured that on the stand I think this morning, your valuation of $5,400, did you not?

A. I am not sure.

Q. Did you assume a weight there?

A. I think I did.

Q. What weight?

A. Well, the area of the bottom, 1,258 feet, the area of the side would be roughly 2,000 feet, that would be roughly 3,300 with 10 per cent. allowance, would be roughly 3,600, at twelve and a half pounds, would be 45,000 pounds.

Q. For the two tanks or for one?

A. For the one tank.

Q. That would mean only 90,000 pounds for the two tanks.

A. Then you have got to put in angle irons and so on at six cents, which would be $5,400. What did I give it as?

Q. $5,400. But don't you think you have underestimated the weight there?

A. I will take the contract for it at that price if it averages 5/16.

Q. If it averages 5/16?

A. Yes.

Q. Well, as a matter of fact, if, instead of weighing 90,000 pounds, there are 150,000 pounds of weight there, of course that would increase your $5,400 very materially, wouldn't it?

A. If the weight is how much you say?

Q. Well, take 156,000 pounds.

A. If they weighed 156,000 pounds they have got more metal than I would consider they need. If it weighs 154,000 pounds at 6 cents a pound, it is worth $9,240.

Q. Do you allow for a top on the tank in your estimate of weight?

A. I didn't, but the top is usually made light.

Q. Did you allow for laps and rivets?

A. I did; 10 per cent.

Q. Well, if the weight was 156,000 pounds Mr. Mayer's figure of $9,750 might be exact?

4168 A. Might be exact. If the weight is that it is not out of the way.

Q. Now, taking the three-story tar tanks under the heading of "Storage Tar Tanks," you have a value under there of $1,320, to wit: $750——

A. For the three rectangular tanks?

Q. For the three rectangular tanks, and $570 for the fuel oil tanks?

A. That is right.

Q. Making six, all told?

A. That's right.

Q. You estimated that, assuming that the thickness was one-quarter inch, I understood you?

A. I did.

Q. Well, if the weights were nearly 26,000 pounds for the three tar tanks and say 3,700 for the fuel oil tanks, Mr. Mayer's figures of $1,613——

A. They are more than that here, sir; $1,756.

Q. No, that includes another item of "tanks and building rest on wooden structure." No, I think you are right. Mr. Mayer's figures of $1,756 wouldn't be out of the way, would they, say for 25,800 pounds and 3,750 pounds?

A. That would be 62,000 pounds roughly. There is something wrong about that.

Q. No, that would not be 62,000, it would be about 29,000. They would not be out of the way, would it?

A. No, it would not.

Q. So, too, in the steel tanks to which you testified under "Oil and pump house," three of them, two 12 by 7 and one 10 by 7 where you gave a valuation of $850?

A. That's right.

Q. What would be the value of those or would Mr. Mayer's valua-

tion be out of the way, $1,218 new, provided they weighed say 19,500 pounds?

A. It would be a little high.

Q. What would you have it?

A. $1,140.

Q. Proceeding to the holders, I direct your attention to the two holders of 125,000 cubic feet capacity, 72 feet 6 inches outer diameter, including the eight round columns. Do you remember
4169 what weight you assumed for those holders and columns?

A. I would not want to say right now. I would say roughly I have estimated more weight, but take that at eight cents a pound it would be in the neighborhood of 450,000 pounds for the two. I must have assumed greater weight.

Q. Do I understand in that weight you did not include any connections except those immediately pertinent?

A. Inlets and outlets, everything out to the drip.

Q. Now, we will take up 21st Street. In the boiler house for two locomotives 60 H. P., Mr. Mayer makes the estimated cost new $2,710 and by taking off some depreciation reduces it to $2,440 as the present value. Would not Mr. Mayer's figures for the original cost new be a fair one?

A. I think it a little high. You can build a locomotive, 60-horse power, and it would cost more than that, but you can build one for less. That is based on general experience. I have made no figures. This particular thing I would not want to say. The boilers may be worth to reproduce to-day what Mr. Mayer figures them but I would say you could build them cheaper.

Q. You think you could build boilers that would do the work for the figure that you gave, which was $2,440, which you set down here?

A. I say it is not out of the way.

Q. Do you manufacture wooden tanks?

A. No, but I get in competition with them a great deal and sometimes order them.

Q. I see you have estimated this wooden tank at only $200 and Mr. Mayer at $360—octagonal valve house, one 7-foot by 7-foot round wooden tank?

A. Yes. I made out the estimate with the area of the bottom to be forty feet and the area of the sides to be 22 by 7, which gives
154 plus 40, which is 194, and 10 per cent. to it would be,
4170 roughly speaking, 210; one-quarter inch stuff, 2,100 pounds, angle iron around top another 110, that would be 2,210 at six cents a pound, $132.

Q. Why one-quarter-inch?

A. It would serve the purpose.

Q. We are talking about a round wooden tank?

A. I mean in competition with those things, in my experience, that a wooden tank, a small one, is about the same price as iron.

Q. But you have never manufactured them yourself?

A. I never have.

Q. You did not critically examine this wooden tank?

A. I did not. The wear and tear on a wooden tank, however, is greater than it is on an iron one; they do not last.

Q. Do you know whether that was a tank for a gas holder or not?

A. I do not. I don't know that I saw it even.

Q. Now, let us go to the "retort house" on 22d Street, and take the three salt water condensers which you figured at a value this morning of $70,000. What figure did you take as your unit value for material and labor?

A. My recollection is five cents a pound.

Q. Do you remember what weight you assumed for it here?

A. Under the circumstances that would be 1,400,000 pounds.

Q. If, as a matter of fact, the condensers weigh 1,875,000 pounds or more than Mr. Mayer's figure——

A. It would be $93,500.

Q. The same as the one similar condenser partly completed which you put at $23,333 as against $30,700?

A. I don't think I put the price on it. I said if the three were worth $70,000 why the other one would be worth one-third, which would be $23,333.

Q. And if it were corresponding to the heavier weight the last one would be worth the $30,700 Mr. Mayer testified?

A. It would be.

4171 Q. Under the "pump house" you give the two wrought iron tanks 8 feet by 12 feet at $520, assuming a one-quarter shell?

A. Yes.

Q. Do you remember what weight you assumed in computing that?

A. I cannot tell. There would be 50 feet in the bottom, 300 feet in the sides which is 350, 10 per cent. of that making 380, and then with the angle iron and so forth it would be 4,000 pounds roughly, at 6 cents, which would be $240. I must have added some more.

Q. Supposing the weight of those two tanks was 9,600 pounds?

A. Worth $576.

Q. Taking the unit figure at 6 cents per pound?

A. Six cents per pound.

Q. And the two wrought iron tanks below, 6 feet by 10? A. The capacity of them is 4,500 gallons, that is the capacity makes 375 gallons a foot, at 12 makes 4,500. Though. Fifty feet for 10 feet high.

Q. Well, whatever the capacity, assuming the weight of those tanks was about 5,400 pounds, then the estimate of $300 would be raised?

A. $324 apiece for 5,400 pounds; $648 for the two. Q. Now, turn to the holders at this station and take the four holders, each 400,000 feet capacity; what pressure did you assume in your estimate of $182,000 as the value of the four?

A. I don't remember, but I should imagine from the figures here somewhere in the neighborhood of 7½. actually 8.7?

Q. It would raise your figures if the pressure was. I am not sure as to what that basis was.

A. It would. That is assuming I based it on the for the holders

Q. Do you remember what weight you estimat

with inlet and outlet pipes and columns, the entire structure of the four?

A. I should say roughly 2,600,000 pounds.

Q. 2,600,000 pounds?

A. Yes.

4172 Q. Well, assuming that the pressure in these holders for gas inflation is 8.7 inches and that the total weight of the holders, guide frames, connections, would be over three million pounds; in that event Mr. Mayer's valuation of $219,400 to reproduce new would not be out of the way, would it?

A. It would not.

Q. The 99th Street plant we will take next. "Condenser and Scrubber House," you valued two 10-foot by 24-foot scrubbers and two 24-foot three by 5-foot 2 by 15-foot condensers with 3-inch vertical tubes in sides of same and the total estimate you made was $18,000?

A. That's right.

Q. You did not assume the same value for the condensers per pound of weight that you did for the scrubbers, did you?

A. The cost would be increased by the cost of tubes. I had a list that I had made at the time and figured up approximately on what I think the number of feet of tubes would be at the market price with the profit on and added, that would be a little bit more than six cents a pound; that is, I mean for the total it would be more than six——

Q. Do you remember what weight you assumed in the scrubbers?

A. What price did I have on the scrubbers?

Q. With the scrubbers and condensers, together, $18,000?

A. What weight I assumed on the scrubbers?

Q. Yes.

A. I don't know. I can rough it.

Q. Or in the condensers?

A. I do not.

Q. Did you figure on cast iron or steel in the condensers?

A. I don't remember.

Q. It would make a difference, wouldn't it?

A. It would be cheaper for cast iron per pound than wrought iron.

Q. Or steel?

A. Well, I mean steel when I say wrought, as we don't use any wrought iron.

4173 Q. Well, if the scrubbers had 68,000 pounds of material and the condensers, say, 320,000 pounds, then Mr. Mayer's figures, of course, new, $20,100, without depreciation, would not be out of the way, would it?

A. 68,000 at six cents would be $4,080, and the other is how much?

Q. Say, 320,000 pounds?

A. No. It would not be out of the way.

Q. Now, in the "yard," three storage tanks, which you figure at $720. Do you remember what weight you assumed for those?

A. I do not. There are 8 by 8, sixty-four times five, 320, 10 per cent. for laps and rivets would be roughly 350; ten pounds to the

foot, bringing it up to 3,500; the angle iron around the top would be 280, would bring it up to nearly 3,900 pounds, at six cents a pound, would be $234.

Q. For one?

A. That is for one.

Q. Now, supposing the three to weigh 12,000 pounds?

A. Then they weigh more than they ought to.

Q. Supposing they did weigh that?

A. Then they are worth $720.

Q. $720, as the value?

A. 12,000 at six cents a pound is $720.

Q. How about the twelve steel tanks below, supposing them to weigh 240,000 pounds, what would be the value?

A. $14,400.

Q. Did you assume that they did weigh that in getting $14,000?

A. I did. I based all those on six cents.

Q. Do you remember what weight you assumed in the two oil storage tanks just below which you valued at $2,600?

A. I assumed 60,000 pounds.

Q. Turn now to the holders and tell me again what value you placed upon those two 600,000 cubic foot holders with three lifts?

A. $70,000.

4174 Q. Do you mean for the two?

A. Yes.

Q. What pressure did you assume?

A. I fancy I assumed in the neighborhood of 7½ to 8 inches.

Q. What weight did you assume for the entire construction, holders, lifts, columns, as specified?

A. Roughly speaking I should say somewhere in the neighborhood of a million pounds.

Q. A million pounds each?

A. No. Both.

Q. Won't you reflect a moment and see whether you included one million only for the weight of the two three lift holders, including the lifts and the columns? Isn't there a mistake somewhere there?

A. I say I assumed that by dividing by 7, taking that as an average price.

Q. Didn't you assume a two lift instead of a three lift in your computation?

A. I have forgotten just now how that was made out, whether made for two or for three lifts, if it was figured on the weight. I am taking the lump sum I figured and divided by 7 so as to get about—this is a matter I cannot recall in a minute.

Q. I ask you particularly because you are very far from Mr. Mayer's evidence as to these holders and very near his evidence in almost all the others, and I thought there must be some discrepancy that was not visible?

A. You mean with regard to the weight?

Q. No, I mean as to value. Mr. Mayer's testimony was $59,674 for each holder, and yours is only $70,000 for the two. Now, let us see——

A. Wait a moment. I want to carry out on that. Mr. Mayer's estimate is $59,674 for each holder?

Q. For each holder. Now, let me see if you have the description right. Two holders, 600,000 cubic feet each, three lifts, diameter of outer centres 100 feet, second section 98 feet 6 inner section 97 feet; height of lift 27 feet 6 inches, 16 wrought iron
4175 column centres. Now, won't you compute that?

A. Can Mr. Mayer tell me what pressure that holder throws?

Q. 7.2 inches.

A. You say there is a wide discrepancy. I will just figure it roughly; 7,854 feet in the bottom; 7.2 at 5.2 roughly would be about 37 pounds per inch—and call it 8,000 instead of 7,850, would be $29,600 for the holder alone. And then the frame, roughly speaking, would be about one-third of the cost, $9,900 more; and then the inlets and outlets roughly would be in the neighborhood of $2,000. That would bring it up to $41,500. I do not think my figure is much out of the way at $70,000.

Q. Assuming that the weight of one of these holders with its guide frames and connections, including all the connections and not merely those which you have in mind was 820,000 pounds?

A. One of them?

Q. Yes. Then the value would not be out of the way at $59,674, would it?

A. I think it would be high.

Q. Even at that weight?

A. Yes. I would be very glad indeed to build them for 7 cents a pound. It would not be worth much more.

Q. How do you assume that the guide frame is one-third the weight of the holder?

A. I only guessed that—I did not say one-third the weight.

Q. One-third the price I should have said.

A. I said one-third the price, because we do not figure that at the same price we do the other.

Q. Is not sixteen columns more than the normal for a 100-foot diameter holder?

A. Yes, it is.

Q. And that would account for considerable weight, would it not?

A. Yes, it would.

Q. 18th Street, referring to the two holders at this 18th
4176 Street station, capacity 205,000 cubic feet each with two lifts, what weight did you assume in estimating the value at $19,000?

A. I did not estimate any weight at all. I took from our estimate books—or rather in this I took the same rough figuring I had done and afterwards verified it by our estimate book by a holder of 200,000 feet capacity that we bid for, and took the holder out of it and then added for the tracks and the columns and the tank iron work, inlet and outlets.

Q. But you did not estimate on this particular holder otherwise than by comparison?

A. These original figures I thought I had too low, and so I com-

pared—this was after this thing was brought to me. As I have said many times before, I did not have much time on it and I looked and found it was not far out of the way.

Q. What pressure did you assume?

A. I have forgotten, but I should say roughly in the neighborhood of 3¾ to 4 inches.

Q. Assuming that the pressure was 5 to 5 1-5 inches?

A. It would be worth more money.

Q. And assume that the weight of the entire construction of the two holders, was, say, 395,000 pounds?

A. 395,000 pounds?

Q. Yes, in that event with that pressure would not they be worth $29,800 to reproduce new?

A. No, I do not think so. At an average of 7 cents, which is about what I would be willing to do it for, and call it instead of 395,000 pounds 400,000 pounds, it would be $28,000. That is over rather than under what I would bid for them to-day, taking it all together.

Q. Take the four holders below, each 255,000 cubic feet capacity, will you tell me what pressure you assume there and what weight you assumed for the four holders?

A. My recollection is somewhere in the neighborhood of
4177 4 inches; I am not sure about that, but I can tell you later just exactly what was figured on.

Q. Assuming that the pressure was 4.8 and the weight of those four holders was over 370,000 pounds apiece, and you assume 7 cents as the——

A. It would be $25,900 or $103,600 for the whole.

Q. That would be very close to Mr. Mayer's figure of $105,378?

A. I have no figure on his.

Q. But if that be his figure?

A. I do not think it would be out of the way.

Q. So, too, if you took the other holders, the previous two holders of 105,000 cubic feet capacity at 395,000 pounds in weight, with their frames and connections, that would give a value at 7 cents per pound of——

A. $27,650.

Q. Would it not be a little more than that?

A. No.

Q. You say that it is not the custom now to cover gas holders with buildings. You know that it was the custom at one time or frequent practice to do so?

A. It was the frequent practice.

Q. And was considered at that time good engineering?

A. I assume so or it would not have been done.

Q. So, too, while you say that a large holder, holding a million cubic feet, can be built for less than four holders holding 250,000 feet each, you find as a general rule, that gas companies that have been built up and have been increasing their consumption in the past have a great many small holders on their hands, don't you?

A. Yes.

Q. At 65th Street the two holders, Nos. 1 and 2, 325,000 cubic

feet capacity each with two lifts, you estimate at $52,000. I assume that you took there also the 7 cents per pound as your unit figure, didn't you?

A. I would have to assume the same thing.

Q. And do you know what weight you assumed for the two
4178 holders with their frames and connections so far as you included connections?

A. It would be somewhere in the neighborhood of 735,000 pounds.

Q. Supposing the weight of the entire construction was 805,500 pounds?

A. It would be $56,350—500 pounds did you say?

Q. 805,500 pounds.

A. $56,350.

Q. In that event Mr. Mayer's estimate of $57,197 would hardly be out of the way substantially, would it?

A. No.

Mr. PAGE: In other words, if you assume the same figure as Mr. Mayer does and use the same multiplier, you would produce the same result?

Mr. MATHEWSON: I wanted to see if our mathematics were good.

Q. 111th Street. The contents of yard, oil tank 43 feet by 20 feet, which you estimate at $2,200 to reproduce, what weight did you assume in that tank?

A. Well, I fancy somewhere in the neighborhood of 35,000 or 36,000 pounds; 36,000 pounds would be $2,160.

Q. Did you figure that with the top on the tank?

A. I am not sure. I do not remember.

Q. You don't remember that any top was included do you?

A. I don't remember; if there was not, there should have been.

Q. Well, do you remember what unit figure you assumed there as the price per pound?

A. Six cents.

Q. Take the atmospheric condensers of cast iron pipe filling 30 inches diameter in ten sections with cast iron base, what unit price did you assume there?

A. My recollection is 5 cents, but I am not sure.

4179 Q. Do you remember what weight you estimated?

A. There would be 80,000 pounds.

Q. And, of course, if your weights are too low, the estimates should be correspondingly raised?

A. Certainly.

Q. 132d Street, one holder, 5,000,000 cubic feet capacity, did you take 6 cents there as the base?

A. No, I just roughed that; that would have taken too much time to estimate it. I based that estimate on the cost of the holder which we built at 21st Street, which cost a little over $40 a thousand and I assumed—it is above $40 a thousand, and I figured with the increase in material and increase in labor that about $60 a thousand

would be about the right price of it, and I took $60 for 5,000,000 feet and called it $300,000.

Q. Do you know how much pressure that holder throws?

A. I don't, but I would assume somewhere in the neighborhood of 13½ or 14 inches.

Q. Assume it throws 15.4 inches, that would raise the price a little?

A. Not on my figures. I have margin enough to take care of that.

Q. Did you assume any special weights for that?

A. No, I did not. I will say that I would be very glad indeed to take a contract for it at my figures.

Q. Including the connections which you have defined?

A. I have added them on there I think, $322,000 is my total.

Q. $325,000, is it not?

A. $322,000.

Q. The next and last is the Inwood station. You referred at once place to apparatus that was not in use. Do you remember what that was?

A. Well——

Q. Was it a hydrogen scrubber?

A. I think so, I think that was referred to as not being in use.

Q. It was being repaired, was it not, when you saw it?

A. I do not call to mind. I would not pretend to remember accurately each and every one of those things in that schedule.

4180 Q. You said that it seemed to you or that you thought it was out of use; were you not informed that it was in use as an oil scrubber?

A. If so, I have forgotten.

Q. And was merely under repair.

A. If so, I have forgotten.

Q. You had not any personal knowledge, of course, as to what use it may be put to or is being put to?

A. No.

Q. Now, referring to this various apparatus respecting which I have questioned you, I understand that your examination of it was not one of great care, was it, of the individual items of apparatus?

A. Well——

Q. You did not go through the works and examine carefully each item of apparatus, did you, respecting which I have just questioned you?

A. I think I saw each item. I would not——

Q. But you did not measure the thickness of the shells and the thickness——

A. I did not measure the thickness of anything.

Q. And your views as to weights are based upon your general estimates and not upon specific measurements, so far as that goes?

A. Largely so.

Q. You said in your direct-examination that someone assisted you

in marking these figures. Who was your assistant, Mr. Logan, or who acted with you?

A. Mr. David Leavitt Hough.

Q. Did you ever know a holder to be taken out because it had actually rusted out and become worthless?

A. I have heard of such things.

Q. Did you ever know one in your own experience?

A. I have seen stuff that had been a holder that was all rusted out.

Q. You have never had occasion to move one that was all rusted out?

A. I have never had occasion to move one and found it was rusted out.

4181 Q. I mean, of course, where a holder has been continuously in use and taken care of and not abandoned?

A. I am not old enough to know what the life of a holder would be for coal gas, if it was taken care of on the outside. If you let it go without painting and taking care of it, it will rust out.

Q. But the depreciation, from the outside, if it is not taken care of——

A. But the depreciation comes from the outside and if it is taken care of—it is good for I don't know how long.

Q. So far as your observation goes, for an indefinite time?

A. Older than I am, there are holders in use older than I am.

Q. The 5 per cent. which Mr. Mayer added was 5 per cent. interest on the money involved in the construction of the entire plant, both manufacturing, holders and otherwise; you would not expect plants like those of the Consolidated Gas Company, including the manufacturing plants, as well as the holders, could be reproduced under two years, would you?

A. Some of the plants, I think, could be reproduced under two years.

Q. You think the entire plant could be?

A. No, it could not be reproduced in that time even.

Q. So that if you are considering the entire plant, half of two years' period would not be excessive, would it?

A. Considering the entire plant, no.

Q. Is it not true even in holders that the time required to get the tanks ready, to construct the tanks, the foundations, etc., frequently exceeds the time required for the construction of the holder itself, in your experience?

A. You cannot practically do any work in erecting the tank until the foundation is completed.

Q. And the laying of the foundation is a matter sometimes of great difficulty?

A. Sometimes great difficulty——

4182 Q. And a long period——

A. One moment. There are lots of foundations on which we have erected tanks where they did not commence the erecting of the foundation until we had commenced getting the work ready in the shop.

Q. And sometimes it is the other way?

A. And sometimes it is the other way.

Q. You said that no engineering charge was to be added to the figures that you have given. You mean no engineering charge as far as your concern is concerned, don't you?

A. That is what I mean, but I do not see how the gas company can be put to any expense for engineering charges if they approve of the plans that are submitted by me, except the inspection and supervision of the work while it is going on.

Q. You have never been in the gas business, have you, Mr. Logan, operating a gas plant?

A. No.

Q. And do you know that company constructing a plant has to lay out plans to supervise the work and to arrange for drainage, to make sewer connections and various other things which add the percentage in final cost of plant to the actual amount paid to the contractors who actually put up material and apparatus, don't you?

A. If they design and do all that preliminary work that you say, there is a cost on the part of the gas company for it.

Q. An engineering expense on the part of the gas company?

A. Yes.

Q. And what that would be or the proper amount for them to charge you have not had experience of, practically?

A. In a general way I would say that in a construction, this is my comparison, that is all——

Q. I am not asking you for your opinion. I say you have never had experience in a gas works so that you are able to say?

4183 The MASTER: He has already said that.

Mr. MATHEWSON: I have nothing further.

Redirect examination by Mr. PAGE:

Q. While you have never had the experience of running a gas works as a gas engineer, you have been a director of gas companies for a good many years, have you not?

A. I was director of the Williamsburg Gas Company for, I think, three years, and the Brooklyn Citizens Company for perhaps two years.

Q. And in connection with your business of supplying certain portions of gas plants, you have had a good deal to do with being around a gas plant and constructing it when the gas plant has been in course of construction, have you not?

A. Yes.

Q. And you are still quite largely interested, if not a director, in gas companies?

A. I am interested; I would not say largely.

Q. Of course, that is a relative term. The weights that were given by you in your direct examination upon these various apparatus, holders, tanks and so forth, are the weights that you have found in your manufacture of gas apparatus, that such apparatus weighs, are they not?

A. Based on what I thought would be satisfactory for the purpose.

Q. The weight of this apparatus has been computed by you and not assumed, has it not?

A. With the exception of the tar scrubbers, I assumed that from their weight.

Q. Where they gave the weight you assumed the weight.

A. Yes.

Q. But all the other weights that you have given here have been a matter of computation?

A. In a rough way, yes, sir.

Q. That that has been made here has been in a rough way,

4184 but you did prepare, did you not, and give to Mr. Hough, who has been spoken of here, your estimate upon this portion of the plant which you have valued here to-day?

A. That and others besides.

Q. In that you made the detailed calculation?

A. I did.

Q. And that is not available to you at present?

A. It is not. The details were all destroyed when we were through with them. We checked up one with the other and they were destroyed.

Q. Now, as I understand, neither you nor Mr. Mayer have weighed this apparatus?

Mr. MATHEWSON: How does he know about Mr. Mayer?

Mr. PAGE: Mr. Mayer has testified that he did not and that his arrival at weights was a matter merely of computation, in answer to a question asked by me.

Q. Now, your computations have been based upon your actual experience?

A. They have.

Q. In the manufacture of various apparatus?

A. They have.

Q. And the weights that you have given are such as are used by you for those various apparatus?

A. They are.

Q. And if Mr. Mayer would make a mistake in the calculation of the capacity of a tank by one-half, you would prefer to rely upon your own calculations, would you not, as to the weight of the apparatus?

Mr. MATHEWSON: I object to that. I don't think there is any such testimony.

The MASTER: I will allow it.

Mr. MATHEWSON: Exception.

4185 A. Decidedly so.

Q. And where the thickness of the apparatus has been given in the schedule furnished by Mr. Mayer, you have taken that thickness, have you not?

A. I have.

Q. As I understand, in estimating the values of your holders and tanks you have estimated connections except those that are known as yard connections, is that right?

A. I have estimated all except the yard connections; the immediate connections to the tanks I have estimated.

Q. And the yard connections were separately estimated by Mr. Mayer in the schedule that he furnished you, were they not?

A. They seem to be; that is, in those schedules they are specified.

Q. That is, there are yard connections specified in those schedules?

A. There are.

Q. Now, when Mr. Mathewson has asked you to assume certain weights and compute your price upon those weights as assumed and you have stated that if those weights were correct Mr. Mayer's figure was not out of the way, were the weights given by Mr. Mathewson such as actually obtained in the manufacture of the particular article that he was questioning you about?

A. As a general statement, I would say no.

Q. Well, the question was general. At one of the stations there is a double tank construction for a holder. Do you remember which station it is?

A. The 14th Street station.

Q. Did you ever know of any other gas holder being erected in a tank of that construction?

A. I never did.

Q. If you were called upon to reproduce that plant to-day would you repeat all the errors that have been made in the past?

Mr. MATHEWSON: What is the use of asking a question of
4186 that kind? There is not any evidence that they were at the time they were constructed.

Q. Is such construction a practical construction, having a double tank?

A. When you say double tanks, there are such things as double tanks; this is a tank with double thickness of shell.

Q. Yes, that is what I mean, a tank with double thickness.

A. Is there any? That is the only one I ever knew or heard of.

Q. That is not exactly the question. (Question repeated.)

The MASTER: Well, it appears to be practical, because it is there.

The WITNESS: It appears to be practical, because it is there and working.

Q. Well, that does not make it practical.

A. Well, it is there and working. I would not consider it good practice to use it there.

Q. That is what I should have said, good practice, instead of practical. Now, in regard to surrounding your holders with brown stone trimmings, a gas company that would build a tank and holder to-day and surround it with a brick house and spend $155,000 for a house to surround it, would be doing a foolish thing, would they not, in the light of experience?

A. I would think so.

Q. It would be foolish waste of money?

A. I would think so.

Q. And a frame that would surround the holder as built to-day would cost about how much?

A. To cite this particular instance, there would have to be a frame for each one.

Q. I know, but I cite this house that had two holders in it.

A. I would say roughly that the frame work for those two
4187 would cost in the neighborhood of $10,000.

Q. That would be sufficient for all practical purposes, that would be the only thing that would have to be added if you removed the house?

A. That is all, for the purpose of using the holder, that would have to be added.

Q. Now, if you were reproducing a plant to-day for the distribution of the gas, 10,000,000,000 cubic feet of gas or 13,000,000,000 cubic feet of gas, you would not build this large number of small holders, would you?

A. I would not.

Q. And you would not say that to rebuild a large number of small holders instead of a few large holders was economical construction, would you?

A. I would not.

Q. And while you have given the prices which it would cost to reproduce those holders to-day, you would not consider that the reproduction of them was a proper thing to do?

A. I would not.

Q. In regard to this hydrogen scrubber which has been somewhat considered in the past, you observed, did you not, that upon the schedule that was given to you it was marked "out of commission"?

A. It had some mark to indicate that it was not being used, I do not remember just the phraseology.

Q. So if it was temporarily being repaired when you were at the works, it must have been temporarily being repaired when Mr. Mayer was at the works?

A. It would seem so.

Mr. MATHEWSON: This is all argumentative.

Mr. PAGE: Oh, yes, that is argumentative, but it is not assuming the existence of a fact which does not exist, as your question did.

The MASTER: As I remember it, when Mr. Mayer was on the stand, there was something said to the effect that that state-
4188 ment meant that it was summer time and in the winter time, the supply being larger than the summer time, it was not necessary to use this apparatus in the summer time.

Mr. PAGE: This hydrogen scrubber was at 99th Street, was it not?

Mr. MATHEWSON: I think that was all gone over, Senator, by somebody who knew about it, and this witness evidently does not know anything about it. It is not worth talking about. It is a little bit of an item.

Mr. PAGE: No, it is only $1,400.

Q. You spoke about the life of a gas holder that was used in a gas plant. Is there any difference in the life of a gas holder that is used in a water gas plant and one that is used in a coal gas plant?

A. I think there is. There might be.

Q. You think that the life of a holder in a coal gas plant is longer than it would be in a water gas plant?

Mr. MATHEWSON: Just a minute. I do not like to have a question put that way. I think it is pretty leading, and I do not think the witness has said anything to warrant it. I do not think he has had any experience which would warrant such a reply.

The MASTER: Well, it is introductory, I suppose, merely. I will allow it.

Mr. MATHEWSON: I except.

A. I do.

Recross-examination by Mr. MATHEWSON:

4189 Q. Will you explain why a holder used in a water gas plant, if well taken care of, will last a shorter time than a coal gas holder?

A. In a general way I have heard——

Q. Well do you know?

A. Do I know?

Q. Yes.

A. Not from my own personal knowledge, but I have heard in my experience, moving around among some of the gas men, I have heard them say it would not last, I have heard some of them say it was eaten out.

Q. You have not heard of a gas man who has had to dispose of a water gas holder, have you, because it was eaten out inside?

A. I do not recall any at present.

Q. Don't you know that in water gas there is an oil accumulation in the holder which contsantly lubricates the holder as it moves up and down on the lift.

A. I understand that there is oil goes in the inside of the holder; but that it is deposited on the sides, I am not so sure.

Q. If it lies on the top of the water and the holder goes up and down it would be bound, would it not, to accumulate on the sides of the holder?

A. Yes, it would probably act that way.

Q. That would tend in your experience, to protect it, generally speaking?

A. Yes.

Q. Have you ever in your experience known a water gas holder well taken care of, properly cared for from the outside to be abandoned because it had rusted out?

A. I cannot say that I have.

Q. You have been asked as to the building of small holders and so on, and whether you would build small holders to-day. Is it not your experience in all business that hind sight is better than foresight sometimes?

A. It is.

Q. Do you know of any instance in which Mr. Mayer has made a mistake of 50 per cent. in the testimony that he has given?

A. Without going absolutely into details, I would have to say no. He may have made it, however.

4190 Q. Oh, yes, we may have. Of course we are all fallible.

A. There were some figures you gave me on the assumption——

Q. But you do not find in any case that your estimates are 50 per cent. outside of Mr. Mayer's?

A. I do not recall just now. I won't say but may be there may have been.

Q. You found in a great many instances that your estimates were higher than his?

A. I did.

Q. And in a great many other instances that they were very close?

A. Yes.

Q. And in very few instances was there any considerable difference, is not that right?

A. Yes, but I would not want to say as to the 50 per cent. to cover that exactly.

Q. Knowing the cubic contents of steel or iron apparatus, it is easy, is it not, to compute with substantial accuracy the weight?

A. It is.

Q. And if an engineer measures apparatus both as to length and breadth and also as to thickness, his estimate of the weight, assuming that he was able to multiply, would be much more accurate than one who made a general estimate from inspection of the apparatus alone, without thus measuring?

A. A man fortified with all the dimensions should be able to make one more nearly accurate than one without the dimensions.

Q. And except where the dimensions appeared in this schedule which you have had, you did not make any measurements of dimensions?

A. I made absolutely no measurements whatever.

Q. And your estimates of weight where you have used them was merely as to weights which such apparatus might produce, which would take the place of the apparatus which you were valuing?

A. They were made according to general practice for making those such as I have done.

4191 Q. And you know, do you not, that different apparatus manufactured by different manufacturers differs somewhat in weight?

A. Yes, sir, it certainly does.

Q. And that apparatus constructed at one period, say ten years ago, differs from the weight of apparatus manufactured to-day, in some cases?

A. No question about that.

Q. So to get exact weights you would have to measure and also get the length, breadth and thickness of the columns and holders and sizes of the tanks and other apparatus?

A. A man should have those.

Q. And you did not have all those details in your estimates of weight here?

A. I did not have those details on which to base my estimates of weights.

By Mr. PAGE:

Q. But you did in every respect except in some cases as to thickness of the shell, did you not?

A. Those thicknesses where they were given, I used them.

Q. But you had all the other dimensions which were given on the schedule?

A. Where the sizes and thicknesses were given I used them.

By Mr. MATHEWSON:

Q. You had no data as to the thickness of the material in the different scrubbers and condensers had you?

A. I think not. Some of them, there was.

Q. And was it not the exception where you had any thicknesses upon which to compute weight in dealing with apparatus respecting which you have testified?

A. With regard to the bulk, in many of the estimates I have made I would—that is the bulk, so I would say I had nothing to govern me to be pretty close to what was there. I do not want to say
4192 that it was the exception. Where the weights were given, in a great many of those things it is not necessary to know the weight; for instance in the holders, if you have the pressure given we could figure——

Q. But you did not even have the pressure in the holders, did you?

A. No, I did not have the pressure in the holders.

By Mr. PAGE:

Q. But you had before you all the details which Mr. Mayer gave here in his testimony?

A. I had.

JAMES L. WELLS, called as a witness in behalf of the defendant, the State of New York, being duly sworn, testified as follows:

Direct-examination by Mr. PAGE:

Q. Mr. Wells, where do you reside?

A. I reside at 604 Tremont Avenue.

Q. What is your occupation?

A. Real Estate.

Q. In the City of New York?

A. Yes, sir.

Q. Where is your office?

A. 141 Broadway.

Q. How long have you been engaged in the real estate business in the City of New York?

A. Over thirty years, about thirty-three years.

Q. What has been your particular line of business, relating to real estate?

A. I have dealt in real estate generally as an auctioneer, broker and appraiser. I am not a speculator in real estate.

Q. What official positions have you held, Mr. Wells?

A. I have represented the city in various capacities at different times; I have been a member of the city government and the State government; my life has been principally devoted to the real estate business.

4193 Q. Yes, but particularly, you have been President of the Board of Taxation and Assessment, is that what it is called?

A. I was Commissioner in the Department of Taxes and Assessments under the administration of Mayor Strong, and I was President of the Department under the administration of Mayor Low.

Q. For how many years under Mayor Strong's administration were you a member of the Board?

A. Mayor Low was two years, and I was nearly three years under Mayor Strong.

Q. Besides that, I believe you were a member of the Charter Revision Commission, were you not, that revised the Greater New York Charter?

A. I was a member, yes, sir.

Q. Have you examined the various properties of the Consolidated Gas Company shown on Exhibit 48?

A. I have examined all from the map, but I have not yet personally examined all the properties for the purpose of testifying, although I have seen all the properties.

Q. Will you take up first the Block 1643, corner of 116th Street and Lexington Avenue, the southwest corner, have you examined that property?

A. I have.

Q. What is that, vacant property?

A. It is a vacant plot on the southwesterly corner of 116th Street and Lexington Avenue, having a frontage of 80 feet on 116th Street and 100 feet 11 inches on Lexington Avenue.

Q. What is that property worth?

A. In my opinion it is worth $71,000.

Q. How did you arrive at that result?

A. I value the corner 25 feet by 100 feet and 11 inches at $30,-
000. I value the next lot to the corner at $20,000, the next
4194 lot to that at $17,000, and the remaining five feet at the same proportionate rate, which would be $3,500, making a total of $71,000.

Q. Passing to Block 1642, that is the northwest corner of Third Avenue and 114th Street?

A. It is.

Q. That property has buildings on it, has it not?

A. Yes, almost covered with buildings.

Q. Will you give the dimensions of that as you have it?

A. I have only appraised the land. The northwesterly corner of Third Avenue and 114th Street has a frontage of 25 feet 2¾ inches on Third Avenue and 100 feet on 114th Street. The property on 114th Street adjoining it on the west has a frontage of 50 feet and 5 inches at a depth of 100 feet 11 inches.

Q. Now, what value do you place upon the land?

A. I value the land at $62,500.

Q. Do you make any additional allowance for the value of the lot that adjoins the lot that fronts on Third Avenue?

A. I did not.

Q. Is there any additional value to a lot that abuts on the rear of a corner lot as this does?

A. In many cases there is that additional value, but I do not think so in this case.

Q. And why not in this case, Mr. Wells?

A. It would add additional value if the same owners controlled the frontage on Third Avenue to a point northerly 100 feet 11 inches from the corner of Third Avenue and 114th Street.

Q. There would be an additional value then on account of plottage?

A. On account of plottage, and on account of the availability for improvement, but very little can be done with that corner lot compared to what could be done if there was 50 feet or 100 feet.

Q. Have you examined the property at Irving Place and 15th Street, Block 870?

A. I have.

Q. Did you value the land and buildings there or land only?

A. I only valued the land.

4195 Q. Well, of what does that consist in the way of land?

A. That land consists of a plot 84 feet front on the easterly side of Irving Place and 155 feet 6 inches on the southerly side of East 15th Street.

Q. And what value did you place upon that land?

A. I valued that at $203,854.

Mr. MATHEWSON: Land only?

The WITNESS: Land only.

Q. How did you arrive at that valuation?

A. I made an arbitrary division of the land, taking Irving Place as the prominent frontage and dividing the plot up into 25 x 100 foot lots and 9 feet over; I divided the land in the rear on 15th Street into two 25 x 84 foot lots and a lot 5 feet 6 inches by 84 feet, simply for the purpose of ascertaining the value by the uniform measurement of city lots.

Mr. MATHEWSON: Will you give the valuation of the corner as distinguished from these other lots?

The WITNESS: I can, yes, sir.

Q. Will you state the valuation which you placed upon the corner lot?

A. I placed a valuation of $60,000 on the corner lot and on the lot next to the corner, $42,500; and the next lot on Irving Place, $40,000, and the next 9 feet at the same rate per lot as the $40,000, which gave me $15,000; I value the lots on East 15th Street at the rate of $22,500, and inasmuch as they were only 84 feet deep I took 92 per cent. of the lots value for 25 feet by 100 feet, so that I had for the first lot on East 15th Street, $20,700, for the next lot $20,700, and for the small strip of 5 feet 6 inches I had $4,554, or in other words I valued the frontage on Irving Place 84 x 100 feet at $157,900, and the frontage in the rear of that on East 15th Street, 55 feet 6 inches at $45,954, making my total of $203,854.

4196 Q. Block 239, which was the corner of Hester and Elizabeth Streets?

A. That lot has a frontage of 100 feet on the northerly side of Hester Street and 150 feet on the easterly side of Elizabeth Street.

Q. And what value did you place upon that?

A. On the whole plot, $142,500.

Mr. MATHEWSON: Land only in each case?

The WITNESS: I have not appraised any buildings in any case.

Q. And how do you arrive at that result Mr. Wells?

A. I divide it into 25 by 100 foot lots, facing four of them upon Hester Street and two of them upon Elizabeth Street.

Q. And what values do you give to the separate parcels?

A. I value the corner lot at $37,500, the next lot to the corner at $25,000, and the next two lots at $22,500, and I value the two lots on Elizabeth Street at $17,500 each.

Q. Block 972 is an irregular piece of ground on East 15th Street, west of Avenue B, that is vacant land, is it not?

A. It is. Well, there is an old building of some kind on it; I could not get upon the ground. I could only see the property by looking through the fence.

Q. Will you give the land value of that?

A. My estimate of the value is $22,000, provided it is of the shape shown in the diagram; it does not appear like that shape on the ground, but that may be on account of the fences.

Mr. MATHEWSON: Yes, that is it, on account of the fences.

The WITNESS: The fences do not follow the line of the diagram.

4197 Q. Well, you have made your calculations based upon the showing on the diagram?

A. I have.

Q. According to the statement of the Consolidated Gas Company?

A. I have.

Q. Now, you might state how you have arrived at the result of $22,000?

A. That plot has a frontage of 13 feet 3 inches on 15th Street, commencing 300 feet west of Avenue B at a point 313 feet 3 inches the boundary line runs in a diagonal direction southwesterly along the line of old Stuyvesant Street, as it formerly existed, to a point; then it runs south 10 feet 6 inches and then easterly 75 feet 7 inches and then southerly 3 feet 5½ inches, and then easterly again 74 feet 5 inches and then northerly, so the diagram says, 106 feet 8½ inches; but you cannot see that little strip of land 3 feet 5½ inches as shown on that diagram, and it does not show that way on the tax maps; that would appear to encroach on the other lot fronting on 14th Street.

Mr. MATHEWSON: Perhaps the other lot encroaches upon us, Mr. Wells.

The WITNESS: That may be. It is very difficult to find out how that line runs in there. I went through the tenement house on 14th Street and got to the rear of it, and I went through the tenement house on 15th Street to see the other portion of it, but there is a tight board fence there and everything——

Q. Assuming the diagram to be correct, as all of our testimony has been based on that assumption, will you state now, how you arrived at the value of $22,000?

A. Well, I took 13 feet 3 inches by 106 feet 8½ inches and I valued that at $53,000; and the balance of the land I compute by the well-known Hoffman rule. It is a long calculation; you
4198 can do it in several ways; you can take it up and divide it into lots or average it; the shortest way is to average the dimensions. It averages about 50 feet south of the southerly line of 15th Street, and I took that portion of the Hoffman rule to estimate it.

Q. Now, Block 985, which runs from 17th to 18th Street, 188 feet west of Avenue C?

A. That has a frontage of 350 feet on the southerly side of East 18th Street and 350 feet on the northerly side of East 17th Street. It is situated 138 feet east of Avenue B; it makes in all 28 lots each 25 by 92 feet, fourteen fronting on each street.

Q. Are those vacant lots or are they used for some purpose?

A. Those are used for gas purposes.

Q. The gas holders, I believe, are on those. And what value do you place upon that plot?

A. I value the lots on 17th Street——

Q. What is the total first?

A. $213,150. I valued the lots on East 17th Street at $7,500 each and the lots on 18th Street, 14 of them, at $7,000, and I add 5 per cent. for plottage.

Q. And Block 982?

A. I have not gone any further with them. The rest of my work is home.

Mr. PAGE: Then we will have to suspend. Before we adjourn, I want to say that I have subpœnas for the various directors. Will you produce them, or shall we subpœna them?

Mr. MATHEWSON: What about?

Mr. BURR: Two things, we think they are very essential witnesses for the defense to begin with——

Mr. MATHEWSON: Do you mean with reference to that newspaper article?

Mr. BURR: Yes, that is one of them, and in regard to franchises and oil.

Mr. MATHEWSON: I cannot conceive any theory on
4199 & 4200 which you can subpœna them or get anything out of them if you do; it seems to me you are wasting your own time or our time. I do not think I can agree to produce them, but if you will give me an idea of what you want, I will submit it to the officers of the company.

Adjourned to Monday, November 26th, 1906, at 10:30 A. M.

Last Exhibits:

Complainant's, 256.
State's, YY.
City's, 63.

4201 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, MONDAY, *November* 26, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Page, Mr. Kirby.

4202 JAMES L. WELLS resumes the stand and further testifies.

Direct examination continued by Mr. PAGE:

Q. Did you visit the premises, Block 982, Lots 13, being corner of Avenue C and 14th to 15th Street?

A. I have visited it.

Q. Have you made a valuation or appraisal of the land there?

A. I have made an appraisal of the land.

Q. What price do you set upon it?

A. I value the property at $300,000.

Q. That is used for holders, is it?

A. Yes, sir. There are some brick buildings on it also that I made no estimate of the value of.

Q. Now you may state how you arrived at that result.

A. I valued the lot which is the northwest corner of 14th Street and Avenue C, lot 25x103 feet 3 inches, at $14,500, and the adjoining lot at $10,000. I am facing my lots on 14th Street and not on Avenue C. I value fifteen lots west of this on 14th Street at $9,500 each on the average, which makes $142,500. I have remaining a parcel of land 9 feet 10½ inches in width, 103 feet 3 inches in depth, which I value at the rate of $9,500, and that gives me $3,686. I face four lots on Avenue C, making the corner of 15th Street, and I value the corner, a lot 28 feet 3 inches by 100 feet, at $11,000. Lot fronting on Avenue C, adjoining the corner, I value at $8,500 and the two remaining lots on Avenue C at $8,000 each, making $16,000. I value thirteen lots on East 15th Street at $7,000 each, making $91,000, and the 9 feet and 10½ inches remaining at the rate of $7,000 a lot, which is $2,753. That makes a total of $299,939, and I call it $300,000.

Q. Now we will take Block 989, lot 1, which is between
4203 15th and 16th Streets, on the east side of Avenue C.

A. Block 989, lot 1, is on the easterly side of Avenue C,

extending from East 15th Street to East 16th Street and extending back on the streets 235 feet on each street.

Q. Did you value that property?

A. I valued that property at $139,500.

Q. How did you arrive at that valuation?

A. I valued a lot, 28 feet 3 inches front by 100 feet in depth on the northeasterly corner of Avenue C and 15th Street, at $11,000, and a lot adjoining the corner, 25 by 100, at $8,500. I valued the corner lot, 28 feet 3 inches by 100 feet, on the southeast corner of Avenue C and 16th Street, at $12,000; and the lot adjoining at $8,500; and four other lots facing Avenue C, each 25 by 100 feet, at $8,000, making $32,000. I value five lots on the north side of 15th Street, in the rear of the lots facing on Avenue C; these lots are 25 feet front each by 103 feet 3 inches in depth at $6,000, $30,000. I have remaining on 15th Street a small plot, 10 feet front by 103 feet 3 inches in depth, which I value at the rate of $6,000 a lot, which gives me $2,400. I value five lots on the south side of 16th Street, each being 25 feet front by 103 feet and 3 inches in depth, at the rate of $6,500 a lot. Total, $32,500. I have remaining on 16th Street a strip of land, 10 feet front by 103 feet 3 inches in depth, which I value at the rate of $6,500 a lot, or $2,600. That gives me my total of $139,500.

Q. Take Lot 26, same Block 989.

A. Block 989. Lot 26. That parcel is situated on the westerly side of Avenue D and extends from 15th to 16th Street, has a frontage on Avenue D of 206 feet 6 inches, frontage of 191 feet on East 15th Street and 191 feet on East 16th Street.

Q. What value did you place upon that?

A. I value that property at $96,480.

Q. How did you arrive at that valuation.

4204 A. I arrived at the valuation by facing all the lots on the street in preference to the avenue and divided them as follows: I value the lot 25 by 103 feet 3 inches on the northwest corner of Avenue D at $8,000, and the lot adjoining, same size, $6,500. I value five lots, each 25 by 103 feet 3 inches, on 15th Street, at $6,000 each, making $30,000; and the remaining strip, 16 feet in width by 103 feet 3 inches in depth, I value at the rate of $5,000 a lot, which makes $3,240. I value the southwest corner of 16th Street and Avenue D, being a lot 25 by 100 feet and 3 inches, at $8,000, and the lot adjoining, same size, $6,500; and six lots west of that, each 25 by 103 feet 3 inches, at $6,000 each, making $30,000; and the remaining strip, 16 feet wide by 103 feet 3 inches in depth, at the rate of $6,000, $3,240, giving my total of $96,480.

Q. Now, take Block 991, Lot 26, being property east side of Avenue D, running through to Tompkins Street, from 15th to 16th Street.

A. It is the entire block bounded by Avenue D, Tompkins Street, 15th and 16th Streets. That has a frontage——

Q. What value did you place upon that?

A. I valued that at $123,500.

Q. How did you arrive at that valuation?

A. I divided the block into four separate parcels, as that appears to me the natural way of subdividing the block if the block were placed upon the market in parcels. Plot A, situated on the southeasterly corner of 16th Street and Avenue D, having a frontage of 75 feet on 16th Street by 103 feet 3 inches on Avenue D, I value at $19,000. Parcel B, situated on the northeasterly corner of 15th Street and Avenue D, and facing the lots on the streets in preference to the avenue, gives me 125 feet on 15th Street by 103 feet 3 inches on Avenue D, I value at $32,500. Parcel C, being situated on the southwesterly corner of 16th Street and Tompkins Street and having a frontage on Tompkins Street of 112 feet 2½ inches and
4205 130 feet 2½ inches along its southerly lines, and thence northerly 103 feet 3 inches, and thence easterly along 16th Street 84 feet 2 inches, I value that $35,500. Parcel D, situated at the northwesterly corner of Tompkins Street and 15th Street, consists of a plot having a frontage of 112 feet 2¼ inches on Tompkins Street, 120 feet 8 inches on 15th Street, 103 feet 3 inches in the rear, 80 feet 2½ inches on the northerly side. This I value at $36,500, which gives me the total of $123,500.

Q. Now take the block just south, this being Block 991, Lot 1. Does this diagram which was put in evidence, Exhibit 48, correspond with the tax map?

A. It does not.

Q. What difference is there?

A. The tax maps show the distance on the southerly side of 15th Street between Avenue D and Tompkins Street to be 268 feet 6 inches, and the map furnished me shows the distance to be 278 feet 7 inches. The tax maps show the distance on the northerly side of 14th Street, between Avenue D and Tompkins Street, to be 355 feet 10 inches, and the map furnished shows it to be 371 feet 1 inch. The distance on Avenue D agrees with the map furnished—the tax map and the furnished map agree——

By Mr. MATHEWSON:

Q. When you said that this exhibit did not agree with the tax map you referred to Block 991, Lot 1, didn't you?

A. That is the only one. There is, I think, just a very slight difference—yes, there is a slight difference.

Q. It is not material?

A. I think not, sir.

Q. What is the width of 15th Street?

A. Avenue D is about 60 feet wide, and 15th and 16th Streets are each 60 feet wide.

Q. To the curb?

A. The official street.

4206 Q. To the curb?

A. No, not to the curb; to the house line.

By Mr. PAGE:

Q. You have assumed the exhibit to be correct?

A. I have.

Q. And now you may give the value.

A. The value of this plot is $199,500.

Q. Now you may state how you arrived at that result.

A. I face the lots on 14th Street, 15th Street and Tompkins Street and on Avenue D. I value the northeast corner of 14th Street and Avenue D, 25 by 103 feet 3 inches, at $11,000, and the lot adjoining at $8,000; and eight lots east of those on 14th Street at $7,000 each; making $56,000. I value the southeast corner of Avenue D and 15th Street, being lot 25 by 100 feet 3 inches, at $8,500, and the adjoining lot at $6,500; and six lots east of those at $6,000 each; making $36,000. I value the northwest corner of Tompkins Street and 14th Street, being a plot 112 feet 1¼ inches by 84 feet 10 inches on its northerly line and 103 feet 3 inches on its westerly line, and 121 feet 1 inch along 14th Street, at $39,000. I value the southwest corner of Tompkins Street and 15th Street, being a plot 112 feet 1¼ inches on Tompkins Street and 78 feet 7 inches on 15th Street by 103 feet 3 inches on its westerly line, and about 124 feet 10 inches on its southerly line, at $34,500. This makes the total, as I stated before, of $199,500.

Q. Now, Block 988, there is nothing else on that, is there?

A. There is nothing else on that. Block 988, that is the entire block bounded by East 14th Street and East 15th Street, Avenues C and D.

Q. What valuation do you give to that?

A. $402,500.

Q. How do you arrive at that result?

4207 A. I faced the lots in this block on Avenue C, 14th and 15th Streets, and not on Avenue D, except the sides of the lots. I value the northeast corner of 14th Street and Avenue C, facing it on 14th Street, being lot 26 feet front by 103 feet 3 inches in depth, at $13,500; and the adjoining lot at $9,000; I value twenty-three lots to the east on 14th Street, each lot being 25 feet front by 103 feet 3 inches in depth, at the average value of $8,000 each, which gives me $184,000; I value the northwest corner of 14th Street and Avenue D, being a lot 25 feet by 103 feet 3 inches, at $11,000, and the lot adjoining at $8,500; I value the southeast corner of Avenue C and 15th Street, being a lot having a frontage of 28 feet 3 inches on Avenue C by 101 feet in depth, at $11,000, and the lot adjoining on Avenue C at $8,500, the two remaining lots at $8,000 each, making $16,000; I value 21 lots on 15th Street, each 25 feet front by 103 feet 3 inches in depth, at $6,000 each, which makes $126,000; I value the southwest corner of 15th Street and Avenue D, having a frontage of 25 feet on 15th Street and 103 feet 3 inches on Avenue D, at $8,500; the adjoining lot facing on 16th Street at $6,500. The total is, as stated before, $402,500.

Q. I understand you have faced all the plot that fronted on 14th Street—that is, all the front of the entire block on 14th Street?

A. I did, in preference to the avenue.

Q. And the 106 feet on the 15th Street and Avenue C, you faced on Avenue C?

A. I did so; yes, sir.

Q. You have taken into consideration the fact that all this prop-

erty, blocks 982, 989, 991 and 988, are in common ownership in making your valuations?

A. I have.

Q. And you have added to the valuation on that account?

A. I have. I have given that a fair consideration.

4208 Q. Now, we will turn to Block 688, between the marginal street and Tenth Avenue, West 16th and West 17th Streets.

A. I have that, sir. Do you want me to give the dimensions?

Q. Yes, you might give the dimensions that you valued.

A. This block has a frontage on Tenth Avenue of 184 feet, on the marginal street 197.6 feet, on West 16th Street 286.20 feet and on West 17th Street 357.29 feet.

Q. What value did you place upon that?

A. $300,350.

Q. How did you arrive at that valuation?

A. I valued the two corners of Tenth Avenue at $17,000 each, $34,000.

Mr. MATHEWSON: Which way did you run those lots?

The WITNESS: Faced them on Tenth Avenue. I value each lot adjoining the corners at $13,000, which made $26,000; three other lots on Tenth Avenue at $12,500 each, which made $37,500; then there is a strip 9 feet by 100 feet to make up the total at the rate of $12,500 a lot, which is $4,500. I value four lots on the north side of West 16th Street at $9,500 each, total $38,000; four lots on the south side of West 17th Street at $9,500 each, making $38,000; and another lot on the south side of West 17th Street, 25 feet by 109 feet in depth in the rear of the marginal street lots, I value at $10,000; the northeast corner of the marginal street and 16th Street, being a lot 25 feet by 86.20 feet, I valued at $17,500; and the southeast corner of marginal street and 17th Street, being a lot 25 feet wide on the average, it is diagonal there, by 132.29 feet in depth on its longest side at $20,000; and five marginal street lots at an average of $14,000 each, they differ in depth, making $70,000; and

4209 the remaining strip, about 9 feet wide, at $4,850, which gave me my total of $300,350.

Q. You have, as I understand, laid these lots out for your own estimation of valuation?

A. I plotted the parcel, disregarding the present lot lines.

Q. You may take Block 689, lot 17.

A. Do you want the dimensions?

Q. That is the entire block?

A. The entire block.

Mr. MATHEWSON: As now existing?

The WITNESS: As now existing, yes, sir.

Q. West 17th to West 18th Street, Tenth Avenue and the marginal street?

A. Yes.

Q. You may proceed.

A. Do you want the dimensions?

Q. Yes, I think you had better give the dimensions to identify your valuation.

A. This is the entire block between Tenth Avenue, the marginal

street, 17th and 18th Streets. It has a frontage of 184 feet on Tenth Avenue, 197.26 feet on the marginal street, 380.47 feet on West 17th Street and 451.55 feet on West 18th Street.

Q. What value did you place upon that?

A. $371,350.

Q. How did you arrive at that valuation?

A. I valued the two corners at Tenth Avenue at $17,000, making $30,000; the two lots adjoining the corners at $13,000 each, $26,000; three other lots on Tenth Avenue at $12,500 each made $37,500; one lot 9 feet wide, that is, a strip 9 feet wide by 100 feet in depth, at the rate of $12,500, $4,500; I valued eight lots on 17th Street, 25 feet front by 92 feet in depth, at $9,500 each, which made $76,000; eight lots on 18th Street, each 25 feet front by 92 feet in depth, at $9,500 each, $76,000; one lot on 18th Street in the rear of the marginal street lots, 25 feet front by 109 feet in depth, at $10,000. I valued
4210 the northeasterly corner of the marginal street and 17th Street, the lot on the square, about 25 feet average width and longer along the street, because there is an angle there, and a depth of 80.47 feet, at $17,000; the southeast corner of the marginal street and 18th Street, being a lot 25 feet wide on the average and a lit-le longer on the marginal street front because it is an angle, and 136.55 feet in depth, at $25,000. I valued five other lots on the marginal street at an average of $13,100 each, making $65,500, and the remaining strip, 9 feet wide, at $4,850, giving me my total of $371,350.

Q. Now, take Block 690, lot 12.

A. Block 690, lot 12. This is an irregular shaped piece of property, but it comprises nearly all the block bounded by Tenth Avenue, marginal street, West 18th and West 19th Streets, excepting about 145.82 feet on 19th Street, and that distance is not continuous; there are parcels out of it, parcels out of the 19th Street front.

Q. As shown on Exhibit 48?

Mr. MATHEWSON: 125 feet, all told.

The WITNESS: No, I make it more than that; I make it 145 feet, because there is 20 feet on the corner; there is a little bit of a strip there on the corner.

Mr. MATHEWSON: Yes, quite right.

Q. Well, there are two parcels of 50 feet each that are out and one of 25 feet, and the corner, 20 feet 8 inches?

A. Yes, the corner, 20.82 feet, the corner of the marginal street and West 19th Street.

Q. What valuation did you place upon this property?

A. I valued that property at $386,350.

4211 Q. Now, you may proceed to give the method of arriving at this valuation.

A. I valued the two corners on Tenth Avenue at $17,000 each, making $34,000; two lots on Tenth Avenue adjoining the corners at $13,000, making $26,000; three lots on Tenth Avenue at $12,500, making $37,500, and the remaining 9 feet on Tenth Avenue at the rate of $12,500 a lot, which would be $4,500. I valued eleven lots on 18th Street at $9,500 each, $104,500; eight lots on 19th Street at $9,500, making $76,000; I valued the northeasterly corner of the marginal street and 18th Street at $17,000, and the southeast corner

of the marginal street and 19th Street at $20,000. That is, including this little piece, which I afterwards deduct. I value five lots on marginal street at an average of $13,100, $65,500, and a strip 9 feet on the marginal street, $4,800, gives me a total of $389,850, from which I deduct $3,500, because the lot on the southeasterly corner of the marginal street and 19th Street has a piece of front out, which gives me my total of $386,350.

Q. Block 691.

A. Block 691, Lot 11. I valued that at $146,850.

Q. How did you arrive at that result?

A. Northeasterly corner of marginal street and 19th Street, $17,000; southeasterly corner at $21,000; I valued the lot adjoining the northeasterly corner of 19th Street at $13,000 and the lot adjoining the southeast corner of 20th Street at $15,000 and the next lot south of that at $13,000; next lot south of that at $13,500; and the strip 9 feet in width I valued at—there is a little difference there—I want to correct it—I shall have to correct my total, too—at $4,500; next lot south at $12,500, one lot on 19th Street at $9,500 and three lots on 20th, one at $9,500, one at $10,000, one at $8,000, making $27,500, that is $142,350, in place of what I stated before.

4212 Q. In place of $146,850?

A. Yes.

Q. Block 666, Lot 3?

A. Block 666, Lot 3 and Lot 12, I have placed no value on those because I assume from the information that I have that the title to this land is vested in the city; the lots do not now appear on the tax map.

By Mr. MATHEWSON:

Q. You have made no estimate of what the value was before they were taken by the city?

A. They were taken off the tax maps in November, 1904.

Q. But I say you have made no estimate of what their value was before they were taken off?

A. I cannot see them, only on the map.

Q. No, I suppose not?

A. I have made no estimate.

By Mr. PAGE:

Q. The next is Block 716, Lot 14?

A. This is a parcel having a frontage of 75 feet on the northerly side of West 18th Street and a depth of 92 feet; the parcel is 275 feet east of Tenth Avenue. I valued it at $36,000.

Q. That is the land without the buildings?

A. Yes.

Q. How did you arrive at that?

A. Three lots, each 25 by 92 feet, $12,000 each.

Q. What kind of a building was on there, have you noted that at all?

A. I have not it noted here; I have it in my notes taken at the time I went over the ground; I have only the land here.

Mr. MATHEWSON: I understand this witness in all his testimony

regards the land only and does not take into consideration the buildings.

The WITNESS: I have not taken into consideration any buildings.

4213 Q. On Block 766, Lots 3 and 12, being two blocks, you find that the tax maps have been corrected by eliminating them, do you?

A. The tax maps have been corrected by the surveyor of the Tax Department, making a note on the official tax map, showing that they were taken, and the date is mentioned when he made his correction on the map.

Q. And what date was that?

A. November, 1904. That is always done on receipt of a letter from the Corporation Counsel.

By Mr. MATHEWSON:

Q. You did not observe any note that they had not been paid for, did you?

A. No, sir.

By Mr. PAGE:

Q. Block 715, Lots 51 to 59?

A. Block 715, is Lots 51 and 59, I have it.

Q. Well?

A. These two numbers combined show a parcel 225 feet front on the southerly side of West 18th Street, 150 feet east of Tenth Avenue. They are divided that way, but it is 225 feet.

Q. What value did you place upon this?

A. $108,000.

Q. And how did you arrive at that valuation?

A. Nine lots frontage, at $12,000 a lot.

Q. Block 951, Lot No. 35?

A. That is a parcel situated on the south side of East 20th Street, 94 feet west of Avenue A. It is a parcel having a frontage of 176 feet on the street and a depth of 92 feet. My value for that is $52,000.

Q. How do you arrive at that value?

A. I valued it at the rate of $7,500 a lot, or $300 a front foot.

Q. We will take Block 952, Lots 7, 29, 30, 33, 34 and 35. What was the total of your valuation?

A. $333,800.

Q. Now you may give your method of arriving at that
4214 result?

A. The property consists of nearly the entire block between First Avenue, Avenue A, 20th Street and 21st Street, except a strip 96 feet wide on each street, and a frontage of 184 feet on First Avenue. The First Avenue front is out. I valued two corners on Avenue A, 25 x 100 feet, at $28,000; those lots are 25 feet front by 100 feet in depth. Two lots next the corners, at $11,000 each, $22,000; three lots facing on Avenue A, at $10,000, making $30,000; the remaining 9 feet by 100 feet at the rate of $9,500 a lot, $3,600; sixteen lots on East 20th Street at $7,500, and the re-

maining 17 feet on East 20th Street at the rate of $7,500, $5,100; sixteen lots on East 21st Street at $7,500 a lot, $120,000; the remaining 17 feet on East 21st Street at the rate of $7,500 a lot, $5,100, which gives me a total of $333,800.

Q. Take Block 953, Lot L.

A. 953, Lot 1——

Q. That is the entire block?

A. That is the entire block bounded by First Avenue, Avenue A, 21st Street and 22d Street. I valued that block at $435,700.

Q. How do you arrive at that result?

A. I valued the two corners on First Avenue at $16,000 each, $32,000; two lots next the corners at $12,000, $24,000; three lots on First Avenue at $11,000 each, $33,000 each; lots 22 feet 6 inches by 100 feet on First Avenue at the rate of $11,000, $9,900; the two corners on Avenue A, at $14,000 each $28,000 two lots next the corners, at $11,000 each, $22,000; three lots at $10,000 each, $30,000; lot 22 feet 6 inches by 100 feet, at the rate of $10,000, $9,000; sixteen lots on 21st Street, at the rate of $7,500 a lot, $120,000; the remaining 13 feet by 98 feet 9 inches on East 21st Street at the rate of $7,500 a lot, $3,900; sixteen lots on East 22d Street, at the rate of $7,500 a lot, $120,000; strip 13 feet front on 22d Street, at the rate of $7,500 a lot, $3,900, making the total of $435,700.

4215 Q. Block 979, Lot 1.

A. Block 979, Lot 1: I have assumed that to be the entire block between Avenue A, marginal street, East 21st and East 22d Streets.

(Question withdrawn.)

Mr. PAGE: We seem to have reached our limit with this witness at present. He says he can get ready and finish to-morrow morning Mr. Burr had expected to have some witnesses to-day, but they are not ready.

Mr. MATHEWSON: I shall ask that some witness be called, Mr. Master.

Mr. BURR: Then I shall ask you, Mr. Mathewson, can you produce Mr. Carter? I can use him on further cross-examination this afternoon.

Mr. MATHEWSON: Hardly on cross-examination. You are in your own case. Mr. Carter's cross-examination is finished.

Mr. BURR: No, the idea was if we wanted any further cross-examination it must be at the expense of our own time, and I want to examine Mr. Carter with regard to the franchises regarding which he gave some testimony in response to your questions. I wish to examine him also with regard to certain complaints which he signed, and as to what those complaints contained. The complaints I refer to being applications or actions in proceedings to have the assessment upon special franchises reduced, &c.

Mr. MATHEWSON: I don't know what the proposition is, but our case is closed and if Mr. Burr wishes to present testimony in his case, why, I presume he can do so.

Mr. BURR: I think the understanding was that we might have any

time desired as long as we consumed our own time, and that
4216 we could have either Mr. Bradley, Mr. Simpson or Mr. Carter for further cross-examination.

Mr. MATHEWSON: On the contrary, before we closed our case, and when you were finishing on cross-examination, I think the Master suggested that further cross-examination might come out of your own time. Our case is closed. There is no witness under cross-examination—not by you—there may be by me.

Mr. BURR: I know, but you remember we were compelled to allow you to finish without interruption. That was the order of the Court and the idea was if we needed further cross-examination it must come out of our time.

The MASTER: Unless you show some stipulation or understanding on the record that the cross-examination of any of those witnesses was left unfinished you will have to call Mr. Carter as your own witness. No doubt the other side will produce him without subpœna.

Mr. BURR: Yes. Well, will you produce Mr. Carter this afternoon?

Mr. MATHEWSON: If you wish Mr. Carter and call him as your witness I imagine he will appear, but I think he would like to know what you are going to examine him on.

Mr. BURR: I have stated it—regarding what he knows respecting the valuation of the franchises.

The MASTER: Have you anybody else you can produce now with whom to fill up the time?

Mr. PAGE: No.

Mr. BURR: I want to say that Mr. Freidman of our office is in negotiation with Mr. Beets of Sherman & Sterling for the purpose of simplifying the production of evidence regarding the title to the marginal streets, and it will save an immense amount of docu-
4217 mentary evidence and so forth if they can succeed in arriving at a stipulation which will be mutually satisfactory. Mr. Friedman is a very sick man and can only spend half a day in our office daily, and I am doing this as well as I possibly can through him, in this regard: He was here this morning and said he would have the whole matter in shape to-morrow morning. I expect it would be in shape this afternoon, but if Mr. Mathewson will produce Mr. Carter this afternoon I will consume as much of the time as may be necessary in the examination of Mr. Carter with regard to this particular matter of franchises and——

The MASTER: Will that close your case, Mr. Burr?

Mr. BURR: Oh, no.

The MASTER: In view of this application and Mr. Burr's apparent surprise that the close of his case should be regarded as near, I want to state, having in mind the last extension, which was until December 10th, that except for some very cogent cause shown, which I do not now anticipate, I shall decline personally to certify to the necessity of any further extension of time after that date.

Mr. BURR: We have subpœnaed various officials of the Consolidated Gas Company and expected them here to-day, our accountants are getting their report, our engineers are ready to continue their

examination of the plants and report upon the value of the same. All of that takes time. We have been working night and day to hasten the completion of this case, and are just as anxious as counsel on the other side or the Master to bring it to a speedy completion, but there is a limit to human endurance and I do not think
4218 we can be accused of laches or neglect in prosecuting the defense of this case.

Mr. MATHEWSON: Do I understand neither Mr. Marks nor Mr. Lacombe have yet been up to the plant?

Mr. BURR: Mr. Marks, since you ask the question, and Mr. Lacombe, have made a visit to the plants, which I was writing you about for the past two weeks, to enable them to pass upon certain vouchers, and that enabled them on last Saturday to pass upon those vouchers. The passing of the engineers upon these vouchers necessitated the accountants to go all back over their accounts, so that they were not able to present their accounts to-day as I expected. They are working at it and will have it out in a few days. Now they are asking to go through the plants with an inventory such as was supplied, for the purpose of putting a valuation upon each particular piece of apparatus and coming here and testifying what in their opinion is a fair and reasonable valuation of each piece of apparatus, including the holders and plants of the Consolidated Gas Company.

Mr. MATHEWSON: I would like to say that the Master knows that when the engineers had permission to go to the works, and they have been there ever since all they cared to; and now to have the accountants held up and have the valuation of plants held up because two witnesses want to go to work now and value the different pieces of apparatus, which is an utter impossibility, of course, in the time at their disposal, is not just, and I do not think it is proper. It is a delay that we should not be subjected to. These accountants were expected to complete their work and be ready to proceed
4219 long ago, and they could have been if they had conducted the thing with discretion and proper consideration, I think. I shall certainly object to suspending this proceeding for the purpose of further investigations by the accountants or further valuations by the engineers.

Mr. PAGE: I, of course, expected the Gas Company would take such an attitude. The counsel for the Consolidated Gas Company knows very well the reason why Mr. Hough was not called as a witness, that after having made the examination he refused to give us the valuations that we desired, because of an evident friendliness to the complainant in this action.

Mr. MATHEWSON: Do you want to say that?

Mr. PAGE: I do. If you are going to make these statements I will make mine.

Mr. MATHEWSON: I have made no such statement.

Mr. PAGE: I know you have not made any such statement but I am making mine. Of course I do not know what has influenced him to take the position which he did, which took me entirely by surprise and has rendered it necessary to get other engineers on the work. We met the same trouble in securing real estate experts, that after having secured them and they having retained our papers for

some time they returned them stating that they did not wish to testify as against the Consolidated Gas Company.

Mr. MATHEWSON: I know nothing about that. I know nothing about Mr. Hough or the reasons why he does not testify, nor does the complainant. Nor as to any of these real estate experts. But what is the matter with the accountants? Why cannot they go
4220 on? They are not valuing anything. They have been at the books there for six weeks or such matter; they must have been able to find out whether Exhibit 94 represents actual disbursements or not. Then it is a question, if there are any items to be objected to by way of argument, whether they are allowable in the cost of gas or not. I cannot see any reason for holding that up.

The MASTER: You remember counsel thought it would not take them thirty days to put in their entire case on the defense originally.

Mr. BURR: They will explain the delay when they present their report, which will be in a few days.

Mr. MATHEWSON: When I object to the time and the adjournments I object to it not because this company has any desire, and I do not think they have evinced any desire, to treat this situation unfairly; but we are suffering, we are suffering delay, we are suffering great loss and embarrassment by reason of this case being unclosed; other suits are being brought against us by the dozen—mandamuses and injunctions. We are being embarrassed and put to expense in innumerable ways that it is difficult for the Master or other counsel to appreciate. They could not appreciate fully without our taking any amount of time to make it clear.

The MASTER: All I can say, gentlemen, is that I am at your disposal at any time or at any hour.

Mr. PAGE: I apply now for an adjournment until to-morrow morning.

The MASTER: I have always been anxious to prosecute this case Saturdays and any other time that would tend to get it out
4221 of the way. I do not know anything about what the effect on the Gas Company is, but the instructions of the Court to speed the case were explicit, and it is not only a question of my personal convenience and my other business, but I think it must affect all counsel in the case alike. I cannot see any reason why instead of trying to waste time apparently, we should not be solicitous of saving it.

Mr. BURR: I must take exception to the statement of the Master that we are trying to waste time apparently, because I know to the contrary. We have been trying to hasten the conclusion of this case as much as any men can possibly desire or attempt.

The MASTER: Well now, you will go on at two o'clock, will you, Mr. Burr?

Mr. BURR: If Mr. Mathewson will have Mr. Carter here.

Mr. MATHEWSON: I cannot produce him. I will tell him you desire him as your own witness on some franchise matters and I imagine he will come.

Counsel now arrange by telephone to have Mr. Carter present at 2:15 P. M. to-day.

At 1:00 P. M. adjourned to 2:15 P. M.

4222 After Recess.

ROBERT A. CARTER, called as a witness in behalf of the defendant, the City of New York, testified as follows:

Direct examination by Mr. BURR:

Q. (Handing paper.) Mr. Carter, I show you this paper and ask you if that is your signature appearing on page 10 and again on page 11?

A. Yes, sir.

Q. This paper to which your signature is attached on the pages named is the complaint in the matter of assessment and valuation for taxation of the special franchises of the Consolidated Gas Company before the State Board of Tax Commissioners, is it not?

A. Yes, sir.

Q. For what year?

A. For the year 1905, apparently. It might be well to confirm that.

Q. Verified the 20th day of March, 1905. This action was brought to have modified or set aside the assessment for the year 1905, was it not?

A. I presume it was an application for the reduction of the assessment, Mr. Burr, that is my understanding of it.

Mr. BURR: I will hand it to Mr. Mathewson, so that he may see that that is exactly what it is.

Mr. MATHEWSON: I think that is generally correct.

Mr. BURR: There can be no doubt that this is the complaint in the proceedings brought by the Consolidated Gas Company to have reduced the assessment of 1905, placed by the State Board of Tax Commissioners upon the special franchises.

The MASTER: Well, does it not show on its face what it is?

4223 Mr. BURR: Well, there was some doubt about it, and I showed it to Mr. Mathewson.

Mr. MATHEWSON: Mr. Carter knows more about it than I do.

Mr. BURR: I ask to have it marked for identification.

Paper marked for identification City's Exhibit 64.

Q. (Handing paper.) Look at this paper which I hand you and be good enough to say whether the signature there is your signature?

A. Yes, sir.

Q. You signed this paper on behalf of the Consolidated Gas Company?

A. Yes, sir.

Q. As appears at folio 24, and you verified it as appears by the last page?

A. Yes, sir.

Q. This is the complaint in the proceeding before the State Board of Tax Commissioners to have the assessment of 1906 reduced, is it not?

A. Yes, sir.

Mr. MATHEWSON: What was the date of the verification of that?

Q. The date of the verification appears to be the 26th day of March, 1906. Is that correct, Mr. Carter?

A. Yes, sir.

Mr. BURR: I ask to have paper marked for identification

Paper marked City's Exhibit No. 65 for identification.

Q. In the 1905 complaint, City's Exhibit 64 for identification you say "the value of complainant's special franchises in the City of New York does not exceed the sum of $4,261,156; the excess of the said over-valuation is therefore $26,238,844." Will you explain, if you please, how you arrived at those figures?

4224 *The* MATHEWSON: The petition, I think, Mr. Master, shows exactly what the argument was, and the basis upon which that estimate of the witness, so far as it was the witness's estimate, if at all, was reached. It seems to me the paper itself is the best evidence of that, if it is pertinent evidence at all.

Mr. BURR: We are entitled to know the facts upon which Mr. Carter based that assertion in this sworn paper.

Mr. MATHEWSON: But the paper——

The MASTER: The paper is not in evidence.

Mr. MATHEWSON: The law provides itself that you shall set forth in the petition, your grounds, and they are there set forth, and the question now is, what are the grounds. I say the paper itself shows.

Mr. BURR: I ask him if it is not a fact that in this paper he did make the statement I have given, that is that the value of the complainant's special franchises in the City of New York does not exceed the sum of $4,261,156, and I asked him upon what he bases that statement.

The MASTER: Well, did he say that he did make that statement in the paper?

Mr. BURR: Yes.

Mr. MATHEWSON: That is the petition of the company merely verified, as is any pleading, by an officer of the corporation.

Mr. BURR: Won't you let Mr. Carter do some testifying. We can get along much faster.

Mr. MATHEWSON: That is not testifying. I am merely calling attention to the fact that it is not Mr. Carter's petition. It is the company's.

The MASTER: You may answer it, Mr. Carter.

Mr. MATHEWSON: Exception.

4225 A. I should not like to testify offhand as to how those figures were reached, without having some opportunity to consult whatever original data or memoranda there may be available in connection with this complaint. I think that the amount named is approximately the value of the tangible property—I will correct that—the valuation placed upon the tangible property in the report to the State Board, based upon the cost of reproduction, less depreciation for the purposes of taxation.

Q. I call your attention to a statement in the verification signed by you to this paper: "Deponent has been continuously engaged in the gas business since the year 1877, having been employed by the

Consolidated Gas Company and one of its predecessor corporations in various capacities from that of junior clerk to that of general accountant; and deponent has also been for several years connected with the Consolidated Gas Company in an official capacity, having served that company as comptroller and as secretary. Deponent is thoroughly familiar with the gas business in the City of New York and especially in the Borough of Manhattan in said city. Deponent knows the extent and nature of the special franchises possessed by the Consolidated Gas Company and by all the other gas companies operating and doing business in the Borough of Manhattan and is familiar with the business and operation of all said companies. Deponent has made a careful and thorough study of all details of the gas business and is familiar with the intrinsic and relative value of the special franchises possessed by the different gas companies in the Borough of Manhattan in said city." That is a correct extract from your verification, is it not?

A. Yes.

4226 Q. And that was true at the time you swore to it?

A. Yes.

Q. And it is true now, is it not?

A. It is true now I believe.

Q. Well, have you any recollection as to how you arrived at that figure, Mr. Carter?

A. No recollection as to those specific figures, Mr. Burr; some recollection as to the general theory upon which that amount was stated; as advised by counsel, that this property and all other property that the company might own for the purpose of taxation possessed a value such as they would bring if sold under ordinary circumstances, and my impression is and my recollection is that counsel advised us that if sold under ordinary circumstances, the franchises, however valuable they might be to the Consolidated Gas Company as a going concern, would have some such value as its plant would have if scrapped—practically none.

Q. Did you arrive at it by taking the original amount fixed in 1884 as you have testified heretofore, for the complainant, $7,781,000, and allowing for depreciation from that amount—did you in other words, by allowing for depreciation on the original valuation fixed upon these franchises in 1884, arrive at the figure $4,261,156?

A. I am not aware that that was done, Mr. Burr. I have no recollection that that method was pursued at all. In fact, I think I can testify very plainly that it was not.

Q. You stated in this complaint further: "There is no method or evidence by which the value of the intangible right to lay and maintain mains and pipes in the streets can be determined. There exists no market or demand for such right, permissions and franchises. The price at which complainant's franchise or rights would sell under ordinary circumstances is merely nominal. The municipal authorities of the City of New York have never fixed any

4227 amount as the consideration for granting such a franchise, and the right to lay mains and pipes in the streets has always been procurable from said municipal authorities without the payment of any monetary consideration therefor. The number of said

franchises which may exist at any time have never been limited by said municipal authorities. The value of said right to occupy the streets does not exceed the cost of procuring such a right from the city and that cost is nominal." Is that a correct extract from this sworn complaint, and did you so state?

A. Yes, sir.

Q. Was it true then, and is it true now to the best of your knowledge, information and belief?

A. For the purposes of that statement, I have no reason to change it.

Q. Well, it was true when you swore to it, was it not, Mr. Carter?

A. Yes, sir.

Q. And it is true to-day?

A. True to-day, with this diefference, I think you will find a difference between that and the next application for a reduction, Mr. Burr.

Q. We will come to that.

Mr. MATHEWSON: In City's Exhibit 65 for identification?

The WITNESS: City's Exhibit 65 for identification, we recognized the fact that the Supreme Court of the United States confirmed a valuation——

Mr. BURR: I move to have that striken out. Mr. Mathewson is not examining the witness.

Mr. MATHEWSON: You asked him whether it was true or not, and he said it was with this modification. Can you let him finish it?

The WITNESS: I must modify it with respect to such
4228 modification as appears in our next application.

Q. I will ask you about the next application when the time comes, but what I ask you now is whether that specific statement was true when you swore to it and whether it is true now?

A. It is true now except with the modification that appears in the next application by the company for the valuation of its special franchises.

Q. In other words, you would be understood as saying it was true then and is true now subject to some modification that you made in some subsequent paper that was subsequently sworn to by you?

A. Exactly.

Q. Have you any data in your custody or under your control showing the manner in which you arrived at this figure of $4,261,-156?

A. I am not aware whether I have or not or whether that figure may have been reached by counsel, having before him whatever facts were available; and having arrived at the figure, why, I naturally would accept his conclusions in subscribing to that document.

Q. But I understood you to say in your sworn verification that you yourself were entirely familiar with the valuation of the special franchises and that they are correct and full and so forth?

A. As I have already stated, where advised by counsel that there is one valuation of property that is owned and operated by a going concern and there is another value of property which it would bring if sold under ordinary conditions and circumstances, and that

it is the latter value that is generally supposed to be its value for the purposes of taxation.

Q. Well, you say that you believe, you are not certain, but that you think you arrived at that figure, $4,261,156, as the result of consultation with counsel?

A. Why, most decidedly, it was by consultation with counsel, because we——

4229 Q. I understood Mr. Mathewson to say he knew nothing about this matter and disavowed any connection with it a moment ago?

A. Mr. Mathewson was never counsel for the company in any of these special franchise proceedings.

Q. Then you refer to other counsel?

A. Yes, sir, I refer to other counsel.

Q. Can you give me the names of such counsel?

A. Yes, sir; Boardman, Platt and Soley were our counsel in these proceedings.

Q. You have no independent recollection at this moment of how you arrived at that $4,000,000?

A. No, I have not, Mr. Burr.

Q. Can you say positively that it was the result of consultation with counsel that that figure was fixed?

A. Positively, yes.

Q. Do you recall the particular time and place where the amount was agreed upon?

A. Are you referring now to 1905?

Q. I am referring now to 1905.

A. Well, as I always have had interviews with counsel in that case in the office of counsel, it could only have been there.

Q. And what is your best recollection—that you suggested the amount or that they suggested the amount?

A. Absolutely, that they suggested it.

Q. They suggested it and you swore to it?

A. That is the case.

Q. The assessment fixed in 1905 was $30,500,000, was it not? That was the assessment which you sought to have reduced by this proceeding to which I have referred and in which this is the complaint, referring to City's Exhibit 64 for identification?

A. My recollection is that that was, Mr. Burr, the tentative assessment.

Q. Here it is right here (indicating).

A. Well, of course, I assume that that is right, that that is the tentative assessment.

4230 Q. $30,500,000?

A. Yes, sir.

Q. And you claim that that was an over-valuation by $26,238,844?

A. That is the amount stated in the complaint.

Q. As being the over-valuation?

A. As being the over-valuation.

Q. Now, the amount of the tax for 1906 as appears by this com-

plaint, City's Exhibit 65 for identification, was $31,900,000; is that a fact?

A. That is the case, yes, sir.

Q. And the company claimed that that assessment was erroneous and illegal, did it not?

A. Well, as to the terms, I cannot subscribe to that exactly. It was an application, I understand, for a reduction of the assessment and certain allegations.

Q. Well, this was the complaint?

A. If that will show me the terms "erroneous and illegal" I will tell you whether the document states it.

Q. Exhibit 65 was the complaint in the proceeding to compel a reduction of that tax of $31,900,000, was it not?

A. I think not to compel a reduction. I think it was an application for a reduction and I do not think it could be compelled by any such application.

Q. Well, was not this an action to have the tax declared illegal, erroneous and unequal.

Mr. MATHEWSON: Merely a petition filed with the State Commission.

Q. Well, a petition—a proceeding; I should not have said action. This is the language, is it not, "erroneous, unequal and illegal"?

A. That is the case, yes, sir.

Q. And in the verfication to this complaint you made the same statement with regard to your familiarity with the gas business and the value of special franchises and the fact that you had
4231 made a careful and thorough study of all the details of the gas values and you were familiar with the intrinsic and relative values of special franchises possessed by the Gas Company in the City of New York and the different boroughs of such city, as you did in the other complaint to which I have referred and from which I have quoted specifically; that is true, is it not?

A. That is the case, yes, sir.

Q. Now, in the complaint in the proceeding regrading the assessment of 1906, you say:

"The said assessment of $31,900,000 largely exceeds the value of complainant's special franchises. The true value of complainant's franchises in the City of New York and the amount for which same would sell under ordinary circumstances does not exceed the sum of $14,000,000. The extent of the said over-valuation is $17,900.000."

Upon what basis did you fix the sum for this year at $14,000,000?

A. That was the amount of an assessment, I think the first assessment against the company's special franchises which had been confirmed by the Supreme Court of the United States for approximately that amount.

Q. You think that the Supreme Court of the United States meanwhile, between the first complaint and the second complaint, between Exhibit 64 for identification and Exhibit 65 for identification, had fixed the sum of $14,000,000 as a proper tax on your special franchises, do you?

A. Not exactly $14,000,000. $13,900,000, if my memory serves me.

Q. Do you know or can you state offhand what was the amount of the special franchise for 1905 as fixed finally?

A. To the best of my recollection it was $27,300,000.

4232 Q. In the complaint, Exhibit 64 for identification, you state:

"If the value of the tangible property in the streets, $4,261,156 is deducted from the amount of the assessment, the assessment upon the intangible element of the special franchises alone is $8,599 for each cubic foot of space occupied by the mains and pipes of the complainant in the streets of said city."

Was that true at the time, or did you believe it to be true?

A. Just a calculation. It must have been true. I did not make the figures myself, but I assume they were correctly made.

Q. Well, your idea was, and the understanding at the time you swore to this paper was, that $4,261,156 represented the value of the tangible property in the streets?

A. No. It was a valuation placed upon the tangible property in the streets assuming certain conditions in the laying of the mains and certain depreciation in value as indicated by the report to the State Board of Tax Commissioners.

Q. And that is the idea you had in mind when you swore in paragraph first of this complaint, Exhibit 64 for identification:

"The value of complainant's special franchises in the City of New York does not exceed $4,261,156."

A. I assume that to be the case, especially if those figures agree.

Q. Now, for the year 1906 how much of the $14,000,000 which you say is the true value of complainant's special franchises in the City of New York, how much of that $14,000,000 was embraced in the tangible property or represented by the tangible property in the street?

A. I don't know.

4233 Q. Well, do you know whether a different theory was adopted in making up the petition of 1906 from that adopted in making up the petition for 1905?

A. Only such differences as the complaint itself would indicate.

Q. In 1905 the $4,261,156 which you stated was the value of the tangible property in the streets was claimed by you to be the value of the special franchises. Now I ask you in 1906 where you say that $14,000,000 is the proper or true value of complainant's special franchises, what part of that $14,000,000 is made up of the tangible property in the streets?

A. There is no separation of it in the complaint, and I would have no information other than was contained in the complaint regarding the complaint, Mr. Burr.

Q. Have you any independent recollection as to how you arrived at the $14,000,000?

A. I have already testified that the $14,000,000 was almost exactly the value of the special franchises, including the tangible property in the streets, which had been confirmed by the Supreme Court of the United States.

Q. But you have no independent recollection of how much of that $14,000,000 was represented by the tangible property in the streets?

A. The Supreme Court of the United States never indicated it.

Q. You are familiar, I suppose, with the decision?

A. I am familiar enough with it to know that.

Q. But you know that in that assessment of $14,000,000 which you claimed was correct, the tangible property in the streets was embraced?

A. That is my understanding.

Q. Do you remember verifying, Mr. Carter, a petition dated July 15th, 1903, for the purpose of obtaining a writ of certiorari
4234 to review the assessment made by the State Board of Tax Commissioners of the State of New York for the year 1903 against the Consolidated Gas Company?

A. No, sir, I do not recall the incident, but I can identify my signature if it is on the paper, Mr. Burr.

Q. Well, I only have the copy. Wouldn't you from the copy?

A. No, sir, that is not my signature.

Q. That is a copy of the original, that is the only paper I have at present. Would that not refresh your recollection?

A. No, it would not.

Q. This is a copy served upon the State Board of Tax Commissioners as appears by the admission of service of the Clerk of the State Board. If there is any doubt about it I will have the original produced. You must have the original, I suppose, or must have it on file. That is the copy that was filed and served on the Board.

Mr. MATHEWSON: I have no reason to doubt that this — a copy, Mr. Burr. I am utterly unfamiliar with it myself, and that is the most I can say.

Mr. BURR: I will have it marked for identification.

Paper marked for identification City's Exhibit 66.

Mr. MATHEWSON: I have no objection to your questioning the witness on it, subject to verification later, if you wish.

Mr. BURR: Yes, subject to comparison and confirmation later.

Q. Did you in pursuance to Section 43 of the Tax Law of the State, and within 30 days after the said section took effect, make a written report to the State Board of Tax Commissioners as to each of the special franchises owned by your company, and as to
4235 all matters required by said section to be reported to the said State Board, as appears in this paper or petition to which I have referred and which has been marked for identification City's Exhibit 66?

A. I assume that this paragraph refers to some prior similar report made in some previous years. As I did not make the report and have not it before me I cannot possibly testify positively of my own knowledge as to what was done, but I presume that the law was complied with and that the report covered those points.

Q. But if you signed this petition at the time which this copy purports to have been signed and verified by you, that is, on July 15th, 1903, the statements there contained in it were true at that time and they are true now?

A. I have no doubt of it. I of course have no knowledge of that particular paper which you have there. It purports to be a copy of a document that I have seen, but of course I have no knowledge that it is.

Q. But if this statement to which I have called your attention appears in the original statement sworn to by you, that was a true and correct statement at the time and is true and correct now, is it not?

A. Yes, sir.

Q. If you in such petition made this statement:

"Your petitioner further shows that in said reports and supplemental reports made as aforesaid your petitioner duly reported to the said State Board that the tangible property included in the special franchises consisted of pipes and mains laid under said streets, highways and public places, and the value thereof based upon the cost of reproducing the same as required by said State Board."

Was that a true statement at the time you made it?

4236 A. If there was such a statement in the document signed by me, was it true?

A. Unquestionably, except, Mr. Burr, that may have been modified in testimony on the stand. I think now, particularly with respect to the cost of services, that I have testified myself that there was some mistake made in arriving at that value and that it was an error and in that respect I would say that the statement would be subject to such modification.

Q. Further, you said, that:

"Such assessment is erroneous by reason of over-valuation and the extent of such over-valuation is $13,972,743."

Do you recall the fact that you made such statement?

A. I do not recall it, Mr. Burr.

Q. Do you recall that you made any such statement as that, independent of this paper?

A. I unquestionably made some statement, but as to the figures named in it I haven't the faintest recollection in the world.

The MASTER: I do not quite understand the object of all this. I do not quite see, Mr. Burr, on what theory you call this witness and ask him whether statements made in written documents, which he admits were signed by him, were true. Why do you not put the documents in evidence and have done with it? It seems to me it is an unnecessary waste of time. I suppose that you want to show that the witness, acting on behalf of this complainant, has made statements which conflict with other evidence in the case. Why is not the best way to show that by putting the documents in evidence?

Mr. BURR: They are rather bulky.

4237 The MASTER: Well, it is taking up twice as much time as is necessary to put it in in any other way.

Mr. BURR: I wanted the witness's particular attention drawn to some statements in these documents, without offering the whole document in evidence, as I deemed the introduction of the whole document was unnecessary. He has placed values on the special franchises in these various petitions and complaints, and I was anxious to ascertain the basis on which he arrived at those figures.

Q. Now, the assessment tax placed by the State Board for the year 1903 was the sum of $17,985,000, was it not?

A. You cannot say that it was or was not from that document. I presume it was. My recollection was that it was approximately that amount, but I should want some other data to testify from than that document.

Q. Did you not state in this document:

"Your petitioner further shows that thereafter and on or about the third day of March, 1903, the said State Board still claiming to act pursuant to the tax law of the State and still claiming that the said pipes of your petitioner and the right, permissions and franchises to construct, maintain and use the same were subject to assessment in the City of New York, finally determined the value of said franchises to be the sum of $17,985,000, and on or about March 3, 1905, filed with the Department of Taxes and Assessments in the City of New York a written statement of such valuation as finally fixed and determined by said State Board and duly verified by the Secretary thereof, and at or about the same time gave notice in writing to your petitioner that such written statement had
4238 been filed with the clerk of the City of New York.

Now, if said statement appears in the original of this petition of which I have shown you a copy, was that a true statement?

A. And bearing my signature?

Q. Yes.

A. Yes, sir, unquestionably.

Q. What I want to arrive at and ask you to explain is how you arrived at the sum of $13,972,743 as being the excess over the true value when the valuation had been placed as I have stated and read from this paper at $17,985,000, the difference apparently being $4,012,257?

A. Well, without some data before me I could not testify as to how we arrived at that difference.

Q. Can you procure the data upon which you have computed these various valuations as I have called them to your attention?

A. Well, if they were made by counsel I can ask counsel for them and possibly procure them.

Mr. MATHEWSON: We doubt very much if they would be preserved. I do not know, but I do not believe now that we could tell just how that was made up.

Mr. BURR: I would like to know as a matter of fact and I think the Master would also like to know upon what basis these valuations varying from year to year were made up; also as to the data, whether it is destroyed, or no longer in existence, and whether there is anyone who can explain the basis or theory by which such valuations were arrived at.

Mr. MATHEWSON: The witness on the stand explained how one was arrived at. I suppose the same answer would apply in each case.

4239 The WITNESS: I think it would, Mr. Mathewson. I would say that the same theory applied in each case and that the same figures were used as the actual value for the purposes of taxa-

tion of the tangible property, that is, approximately the same figures, and in the year to which Mr. Burr is now referring it is probably the amount he names, but he is using a document not having my signature and therefore not having been actually verified by me as to its correctness of course I cannot possibly confirm figures that are there.

Mr. BURR: I state to you when examining you from these papers that this paper already marked for identification as City's Exhibit 66 is taken from the files of the State Board of Tax Commissioners, and purports to have been the copy served by Boardman, Platt & Soley upon that Board, and it is submitted to your attention subject to confirmation later on. If there is any mistake in any of the statements that I have read from that paper you are at liberty now or at any time to correct them, and it is always on the assumption that these statements are contained in the original paper that I am assuming to examine you.

The WITNESS: And where it is possible for me to answer I am answering, with that proviso, assuming these statements are correct copies of the original document bearing my signature; and, with respect to the particular items which you referred to, I presume the same fact obtains in respect to this 1903 application for a writ of *certiorari* as did in the 1905 application for a reduction of the assessment where the——

Q. You say you presume, but have you any independent recollection of the manner and the circumstances by and under
4240 which this amount of $4,012,257 was arrived at as being correct for the year 1903?

A. As for that year, I do not think testimony has been taken in the present and previous hearings, but certainly with respect to the other years, 1904 for example, a great deal of testimony has been taken as to how those figures were reached, and Mr. Simpson has testified, I think, as he was the man who made the figures up, and I have nothing to add to his testimony.

Q. I am asking you now whether you have any data upon which your figures are arrived at?

Q. Have you preserved yourself any data——

A. I think that figure would appear in the special franchise tax report which the company files every year with the Tax Commissioners and concerning which a great deal of testimony has been given by the company.

Q. I call your attention to Schedule D in this case, page 402 of Exhibits, and the item which appears there upon that page of "Contracts, rights and so forth, $7,781,000." Was this $4,012,257 embraced as part of that $7,781,000, or was it in addition to that $7,781,000 as appears there in Schedule D?

A. What is the figure you have in mind?

Q. I have in mind the figure which you stated was the correct and true valuation of your rights in the streets for 1903, $4,012,257, and I had in mind also the "contracts and rights" which appear in Schedule D, page 402, in this case, and stated at $7,781,000——.

A. And the question is what?

Q. Was $4,012,257 embraced in that $7,781,000, or is the $4,012,257 in addition to the $7,781,000?

A. I think it is independently entirely of the $7,000,000.

Q. Independent?

A. Yes, sir.

Q. It is embraced in this $7,781,000 as appears in Schedule D just referred to?

4241 Mr. MATHEWSON: The witness already testified to that at great length.

Mr. BURR: This is my witness, Mr. Mathewson.

Mr. MATHEWSON: I know, but he has already testified as to what that was long ago.

Mr. BURR: I object to these interruptions. You insisted I should call Mr. Carter as my witness. I have called him and I am asking a plain, simple question, and it is unnecessary to have any interruption, statement or additional testimony.

Mr. MATHEWSON: You examined him by the hour on that very subject, cross-examined him and finished with him.

The WITNESS: Do I understand that you want me to repeat what I have previously state- with respect to this item of assets?

Q. You say that this $4,012,257 which you claimed was a correct value of the franchises in 1903 is in addition to this sum of $7,781,000 as it appears on Schedule D, that amount on Schedule D purporting to be the amount of your franchises and rights?

A. The amount that you named $4,012,257 is entirely independent of the value placed upon the contracts, rights and other intangible property of the company.

Q. Very good. Now let me ask you how did you arrive at this figure $7,781,000 as the value of your rights?

A. I never did arrive at it. It was the value at which those intangible assets were carried on the books of the company. I never arrived at it; I am simply giving the value as it appears on the books of the company?

Q. You mean to say you have carried that figure contin-
4242 uously on your books since 1884?

A. That is the case, yes sir.

Q. Without any variation whatever?

A. None whatever.

Q. And that arbitrary figure you have carried up to the present time on your books, is that right?

A. Yes, sir.

Mr. MATHEWSON: It was not an arbitrary figure. It was an amount at which they were appraised in 1884.

Q. In the complaint verified by you, City's Exhibit 65 for identification, you stated:

"The rights, permissions and franchises of the complainant and occupying the streets in the City of New York exist under certain laws specified in complainant's report to the State Board for the year ending June 30th, 1899, and complainant has acquired no new or different rights, permissions or franchises since the filing of said report."

Was that true and is that true still?

A. That is my understanding, yes, sir.

Q. Now, there was also a petition for a writ of *certiorari* to review the assessment imposed upon your company by the State Board of Tax Commissions for the year 1904, was there not? You know that as a fact?

A. There have been writs issued for every year and we have never succeeded in getting any reduction of the assessment, nevertheless.

Q. The State Board of Tax Commissioners fixed and determined the value of the special franchises of the Consolidated Company for the year 1904 at some $21,900,000, did they not?

A. That is my recollection, yes, sir.

4243 Q. In this petition for a writ of *certiorari* which I show you and which purports to have been signed by you and verified by you as Secretary of the Consolidated Gas Company, it is stated that "said assessment is erroneous by reason of over-valuation and the extent of such over-valuation is $17,829,160." Can you recall now, Mr. Carter, any facts by which you can state how you arrived at that later figure which I have just named of $17,829,160 as being the excess over the true valuation of your special franchises for the year 1904?

A. In the first place I assume that the question carries the same modifications as in all previous instances where you present a copy, assuming the copy to be correct?

Q. Yes.

A. Assuming it to be correct I have no doubt the stated excess is as it was given in my statement. It was arrived at I presume in the same manner as in previous years and other years to which you have referred. The excess of the assessed value over the value of the tangible property is given in the special franchise tax report.

Q. In other words, they had imposed a tax of $21,900,000 and you claimed that that was $17,829,160 in excess of the proper valuation. In other words, you claimed that the true value was $4,070,840?

A. For the purposes of taxation, yes.

Q. That was for the year 1904?

A. That was for the year 1904.

Q. The original assessment for that year was $22,000,000, and in the complaint filed with the State Board you claimed that was $18,129,160 in excess of the true value, or that the true value was $3,370,840?

A. Well, you are reading from a document there. If it so appears in the original unquestionably that is the case.

4244 Q. And you are not able now, as I understand it, to state why there are these variations from year to year in what you claim to be the true value?

A. None other than I have given. I think that the figures given would be found each year in the report of the company to the State Board of Tax Commissioners.

Mr. BURR: I will offer this for identification, being similar petition for the year 1904.

Marked City's Exhibit 67 for identification.

Q. I call your attention to page 30 of Yalden's report already in evidence in this case and point out to you as appears in the table on said page that the $7,781,000 to which you have referred, and which appears upon Schedule D in this case as being the value of the contracts, rights and franchises of the Consolidated Gas Company in 1884, was apportioned as follows among the constituent companies:

New York	$1,417,000
Manhattan	2,329,000
Metropolitan	1,863,000
Municipal	1,175,000
Knickerbocker	528,000
Harlem	469,000

In other words, the valuation of the franchise claimed to be held by the New York is 18.2 per cent. of the total amount; of the Manhattan is 29.9; of the Metropolitan 23.9; of the Municipal 15.1; Knickerbocker 6.8; and the Harlem 6 per cent.; is that not so?

Mr. MATHEWSON: It shows whether it is so or not.

A. I don't know anything about it myself.

Q. Well, if that computation is not correct will you please take the pains to correct it?

4245 Mr. MATHEWSON: No. If that is a matter of argument or computation on your part I do not think this witness should do it.

Mr. BURR: You are forgetting this is my witness and I am asking him to do me a favor and not as a matter of right. I ask him if he will be kind enough to compute that and if he finds my figures as I give them incorrect will he be kind enough to correct me, not Mr. Mathewson. You have become so used to this situation, Mr. Mathewson, that you fail to recognize the condition as it exists this minute.

The WITNESS: I will be glad to do that, Mr. Burr.

Q. I call your attention to Exhibit 385 before the so-called Stevens Committee as it appears upon page 2433 of the record in that investigation——

Mr. MATHEWSON: You remember you are examining this witness on direct and not cross-examining him. You also have perhaps lost your bearings a little in presenting various documents.

Mr. BURR: Oh, no, not at all.

Q. I call your attention to exhibit 385, which purports to be a statement of the status of the real estate, plant and property, as shown under the following headings on the books of the company and under the heading "As per Schedule June, 1884, Franchises and Rights," which appear to be $7,781,000; is that not correct?

A. That is the case, yes, sir.

Q. And under the column "Additions to November 11, 1884," there is no addition apparent upon this exhibit to the item of "franchises and rights," is that true?

A. That appears to be the case.

4246 Q. So that the status December 31st, 1904, of the franchises appears to be $7,781,000 still in this exhibit, and as to increases under the column "Increase" the same figure appears?

A. No.

Q. No, that is the total. This is the status here. The total is given under the column "November 11, 1884," as $7,781,000 and under the column "Status December 31st, 1904," also the figure $7,781,000?

A. That is the case, yes, sir.

Mr. BURR: That exhibit was introduced by Mr. Mathewson at a hearing before the Stevens Investigating Committee.

Mr. MATHEWSON: If you want the fact, it has been testified over and over again that there is not the slightest question about it that the rights and franchises have continued at the same figure from 1884 down to this date, at $7,781,000 on the books of the company and in the balance sheet and everywhere else, so far as I know.

Q. Can you state whether in arriving at the proper valuation as your attention has been called to the subject for the years 1903, 1904, 1905, you eliminated the franchises of the New York, Manhattan and Metropolitan Companies?

A. In arriving at the proper values, I did:

Q. Well you have stated the proper valuation of your franchise rights for 1904 for instance at $4,070,840, again at $3,870,840, in 1905 at $4,012,257. I say in arriving at any of these totals did you take into consideration, or in arriving at that figure if you now recollect the fact, that any of the franchises upon which this valuation of $7,781,000 had been fixed in 1884 have since expired?

A. Oh, I am sure that nothing of that sort was considered.

The WITNESS: Of course, Mr. Burr, in accepting your
4247 phraseology of "proper value" as quoted from that report, perhaps I ought to qualify that in my answer as the value, or the amount which, according to our statement, should not be exceeded in valuing the franchises for the purposes of taxation; not a proper value in any other sense.

Q. What I was anxious to get, Mr. Carter, was this. The fact appears to be, and it has been stated several times, that the original amount at which these franchises appear upon your book was $7,781,000, and they still have been carried right along on your books at the same figures. Now, this $4,000,000 in the various complaints you have addressed to the Court and to the State Board of Taxation, you claim, represents your rights in addition to the rights represented by the $7,781,000, is that true?

A. In addition, I should say.

Q. This Exhibit 1 appearing on page 40 of the complainant's affidavits in rebuttal in this case, purporting to be a statement of assets, book values and liabilities, October 31, 1905, was that a statement showing the entire assets of the company? Does that statement contain the item of franchises embraced in the item Plants and Property?

Mr. MATHEWSON: I object to this as improper in direct-examina-

tion, asking the witness whether he swore so and so, or whether it does not appear in some of his affidavits. It is not a matter of any importance in this particular instance, but I do not like to have such a precedent established.

The MASTER: I will allow it.

Mr. MATHEWSON: Exception.

A. It does include that item, Mr. Burr.

Q. And I think you stated in your affidavit, made in this
4248 case, on page 31, that all of the assets in that exhibit represents actual value and are in no sense fictitious. I call your attention to the paragraph (handing book).

A. Yes, sir, that is the case.

Q. The figure that you included the franchise at in the statement was $7,781,000?

A. Yes, sir.

Q. On page 27 of your affidavit, Mr. Carter, you quote a statement of the Committee with regard to these franchises.

A. You are referring to the Committee of 1886?

Q. Yes.

A. Reference is made in my affidavit to the report of the majority of the Committee in reference to the valuation placed upon the rights and franchises of the company in 1884. Do you wish me to read the paragraph, Mr. Burr?

Q. I mean to say you quoted that in your affidavit?

A. Yes, I have quoted.

Q. With approval?

A. Yes, sir.

Q. And you still approve that statement?

A. Yes, sir.

The MASTER: Now, Mr. Burr, I am frank to say that I cannot permit much more of this. It does not seem to me that it is in any sense direct-examination of the witness or part of your case. If you are going to try and prove to me the value of these franchises, that is not the way to do it. If you want to prove that Mr. Carter said something outside of Court, different from what he said here, put in the evidence. How it makes out your case to call him here and put in his opinion of these old affidavits on the record, I do not see.

Mr. BURR: I am trying to arrive——

The MASTER: I know, but it is virtually cross-examination, as to which the witness has already been examined in chief and on the cross, and you cannot make anything else out of it.

4249 Mr. BURR: I called him for further information on this subject of the franchises, and called his attention to several statements that have been made with regard to the franchises, what they purport to be, and what they claim the valuations are, all depending upon the situation as it changes from year to year. I want to get from Mr. Carter some lucid statement, if I possibly can, of the basis on which they claim these franchises to be worth so much one year and worth so much another year——

The MASTER: It is not a question of what they claim. You are

here to prove what the franchises are worth, and you are proving that these people——

Mr. BURR: I will take their statements for it.

The MASTER: Your proving that these people have made contradictory statements at some other time does not show what they are worth.

Mr. BURR: I suppose, of course, that you will take notice from what has been presented here in all these various petitions and proceedings, what their claim has been as to what their franchises represent.

The MASTER: Certainly.

Mr. BURR: And what their value is, and whether they represent tangible or intangible rights. Now there is a statement by Mr. Carter that the $4,000,000 is in addition to the $7,781,000.

Mr. MATHEWSON: And why not, so long as you represent the State and City, consume some time in reconciling the statements of the State Tax Board that for the purposes of taxation they are worth $31,900,000, but for the purposes of fixing the price of gas, they are worthless and of no value at all?

4250 The MASTER: What I said was not addressed to the merits of the matter, but as to the manner of proof. I do not think this is proper examination in chief of a witness called by you.

Q. I only want to ask you one question, Mr. Carter. Mr. Zollicoffer and Mr. Gawtrey in 1900 and 1901 were your superiors, were they not?

A. Yes, sir.

Q. Mr. Zollicoffer was secretary and Mr. Gawtrey was president or vice-president, was he not?

A. He was president, yes, sir.

Mr. BURR: That is all I want to ask you now, Mr. Carter.

The MASTER: You may cross-examine.

Mr. BURR: It is understood that Mr. Carter is to get the statements or data on which these various figures were based, if he can.

Mr. MATHEWSON: I have not any understanding with him. You can reach any understanding with your own witness that you can. I have no control over him now.

Q. You are not now saying that you are so advised by counsel, are you?

A. I may have to later.

Cross-examination by Mr. MATHEWSON:

Q. Referring to the petitions for a reduction of the franchise assessment or petitions for writ of *certiorari* to review the franchise tax assessments prior to the year 1906, you had not the advantage, had you, of the decision of the Supreme Court of the United States as to the taxation of these franchises, or as to whether they should be taxed at all?

A. That is the case, yes, sir.

Q. And did you not, in these various petitions, or rather
4251 the company in these various petitions, raise the question among others, that the act was unconstitutional and that the

assessment of these franchises for taxation should be nothing beyond the mere tangible property?

A. That I understand to have been the theory in a general way, Mr. Mathewson.

Q. And did you not also raise the question specifically in these petitions that these taxes as assessed were unequal and discriminatory as against the Consolidated Gas Company as compared with other real estate?

A. That question was raised, yes, sir.

Q. And did all these facts enter into the form of the petitions as presented, and the substance of those petitions?

A. Yes, sir.

Mr. BURR: You mean all these claims?

Mr. MATHEWSON: All these considerations.

Q. Now, if you look at page 402 of the Exhibit book, Schedule D, it appears that the tangible property in the streets, that is, mains, was specified at how much for the year 1905, in the report to the State Tax Board?

A. The report appearing upon the page that you give me, Mr. Mathewson, is for 1904.

Q. Well, 1904?

A. Would you like me to find 1905?

Q. No, that will do.

A. In 1904 the valuation was given as $4,261,156.39.

Q. Now, in the petition for reduction in the year 1905 for the 1905 taxes, City's Exhibit 64 for identification, it appears that the company states that the special franchises should be assessed at only $4,261,156, which is the identical amount, is it not?

A. That is the case, yes, sir.

Q. In other words, that is just the value of the tangible
4252 property as fixed in that report?

A. As fixed in that report, yes, sir.

Q. Now, do you know how that sum of $4,261,156 was arrived at, except from Mr. Simpson's testimony that that represented bare cost of material plus labor in laying in soft dirt?

A. I have no other information than that and there is none to be had but that.

Q. Did you know that the charter of the City of New York provided that in the assessment of real estate an amount should be placed opposite the real estate at which it would in ordinary circumstances sell?

A. Yes.

Q. And not in its original cost?

A. No, sir.

Q. Nor its structural value?

A. No, sir.

Q. Nor its cost of reproduction?

A. No, sir.

Q. And did you know that under the Franchise Tax Act that these special franchises and also the mains and services were defined as real estate?

A. They were so defined, yes, sir.

By Mr. BURR:

Q. Did you know that they were so defined?
A. I know that they were, yes, sir.

By Mr. MATHEWSON:

Q. And were you so informed by counsel at that time?
A. Yes, sir.
Q. What is your view that these franchise rights, if sold in ordinary circumstances and separate from the tangible property of the company would bring their actual value as to an operating company?
A. Decidedly not. They might bring no value whatever; there might be no bidders for them whatever under those conditions, whereas, as an asset of a going concern they might have a very large value.

4253 Q. And is the same true of mains and services?
A. Identically.

Mr. BURR: I object to that and ask you to have those answers stricken out, as being purely speculative. There has been no evidence here that any such condition was existing.
Mr. MATHEWSON: You asked the theory on which this witness arrived at this particular transaction or the company did.
Mr. BURR: I asked him but he said he did not know and has no data to find out.
The MASTER: I will allow it.
Mr. BURR: Exception.

Q. When you say that the Supreme Court of the United States confirmed the assessment of about $14,000,000 against the special franchises of the company by their decision between your 1905 and 1906 reports, is it not true that that proceeding went through the courts of the State of New York, including the Court of Appeals as well as the Supreme Court of the United States?
A. That is the case, yes, sir.
Q. And were you successful in reducing the assessment?
A. We were not, and have never been.
Q. And did not that apply to an early tax, say, the tax for the year 1899?
A. Yes, sir.

Mr. BURR: What applied?
Mr. MATHEWSON: The $13,000,000 or $14,000,000 assessment.

Q. Now, it has been drawn to your attention that following your petition in the year 1905 to reduce the assessment of your special franchises from $30,500,000 the Board actually reduced the assessment to $27,300,000?
A. Yes, sir.

4254 Q. Did the Board under your 1906 petition reduce your assessment of special franchises a dollar below the $31,900,000 at which they fixed the tentative value?

A. Not a dollar.

Q. And this petition in 1906 and the decision of the Board of 1906 was subsequent to the finding of the Supreme Court of the United States that the Franchise Act was constitutional, was it not?

A. Yes, sir.

Q. Now, I want to ask you whether these various subjects and considerations to which Mr. Burr has called your attention modify in any way the testimony which you have heretofore given as to the cost of any property of the company?

A. No, sir.

Q. Nor its cost of reproduction?

A. No, sir.

Q. Or its present structural value?

A. In no respect.

Q. Is it not true, Mr. Carter, that as secretary of the company you are called upon to sign from time to time large numbers of papers which you yourself do not prepare?

A. Yes, sir.

Q. And of which you are only generally informed?

A. That are prepared by counsel and submitted to me for official signature, very frequently.

Q. Now, it has been called to your attention that the $7,781,000 of value in franchises with which the company started in 1884 was divided among the six companies at the time of consolidation for some purpose in a certain proportion. Is not that in accordance with the sales of the various companies, if you remember?

Mr. BURR: I object to that unless this witness knows of his own knowledge.

Mr. MATHEWSON: That is what I am trying to ask him, if he remembers.

Mr. BURR: I think he has already testified that he does not.

The MASTER: He can say, if he can remember.

4255 The WITNESS: My impression is that it recognized the ratio of the volume——

Mr. BURR: I object to his stating his impression. He asked for facts, and I insist upon him giving them.

Mr. MATHEWSON: I asked for his best recollection.

The WITNESS: My recollection is that it recognized the ratio of the volume of business of the companies, the ratio of the total.

Q. Will you look at this affidavit in rebuttal to which Mr. Burr called your attention and show me the paragraph to which he drew your attention and asked you if you did not quote and if you believed that to be the fact?

A. On page 27 of my affidavit in rebuttal——

Mr. BURR: Embracing——

Q. No, no, the report of the Committee of 1886, that is what you asked him, if it was not a report. Will you please read the paragraph to which attention was drawn and which you did quote?

Mr. BURR: I have no objection to his reading that paragraph, provided he commences from the paragraph to which I referred, that

is the statement made by him with regard to the paragraph he is now proceeding to quote.

Mr. MATHEWSON: You drew no attention to it.

Q. Very good, you may read that paragraph. What did you say in your affidavit preceding the paragraph which you quoted from the Commission's report?

A. After referring to the character of the franchises, "Including the privilege of laying their mains in the King's Highway"
4256 and their recognition by the Court as probable, the Committee goes on.

Q. Now, will you quote the paragraph of the Committee's report?

A.—

"Thus the question for your Committee to decide was this, was the $7,781,000 more than the fair aggregate value of the franchises and rights of these six companies? We are forced to the conclusion that it was not; that the franchises of the New York, Manhattan, Metropolitan and Municipal Companies were worth much more than that sum, and that if these companies saw fit to give a part in their franchises to the stockholders in the Harlem and Knickerbocker companies, it was a matter which interested only the stockholders of these companies."

Q. Now, the Committee's finding, therefore, that $7,781,000 was much less than the value of the franchises referred to the franchises of only four of the companies, did it not, out of the six?

A. That is the case, yes, sir.

Mr. BURR: I object to that. The Committee's report speaks for itself. The witness's characterization of it is not proper.

The MASTER: That is right, if he is asked to characterize it; but if it is before him, and he is asked to state what it contains that is only in line with the great majority of the questions you asked him about these exhibits for identification.

Mr. BURR: Yes, he may state what it contains without characterizing it.

Mr. MATHEWSON: That is it exactly; I am not asking for information outside of that.

The WITNESS: Only the franchises of the New York, Manhattan, Municipal and Metropolitan are stated, and it is stated
4257 that their value is more than the sum at which the value of all the franchises——

Mr. BURR: The inference is that the other two franchises were worth nothing.

Q. And those four companies do not include the Harlem Company, do they?

A. No, sir; nor the Knickerbocker.

Q. And is it not the claim of the Consolidated Gas Company that the Harlem has a perpetual franchise above 79th street for the whole city?

A. Yes, sir.

Q. And does it in your opinion follow that if some of the fran-

chises at present have expired, without conceding that fact, that the balance of the franchises now are worth less than $7,781,000?

A. Well, hardly, no, sir.

Q. In connection with these various petitions to which your attention has been called, I want to ask you whether when you signed them it was your understanding that those petitions, dealing with valuations for taxations, stated the original cost of the property with which you were dealing or the cost of reproduction or the actual structural value of the property to the company as a going concern?

A. No, sir.

Redirect-examination by Mr. BURR:

Q. Then you have some recollection independent of the data as to what you meant by these various figures that you adopted and stated in these various papers to which I called your attention?

A. I think I stated so in reply to your question, Mr. Burr.

Q. And Mr. Mathewson has asked you if you are not in the habit of signing a great many papers without knowing exactly what they are, papers presented by counsel?

A. No, I don't think he answered the question in that way.

4258 Q. I understood the inference was that you might not have known exactly what you signed in those papers. You do not mean to make any such claim, do you?

A. Perhaps it would be well to have Mr. Mathewson's question read and my reply, so I would know exactly what I did testify.

Q. When you sign a paper and you swear in that to your special knowledge of the matter that that paper purports to refer to, you mean exactly what you say, do you not, in that affidavit?

A. Yes, sir. But there are a great many affidavits which come to me that I do not have opportunity or time to study very closely or very carefully, and I am therefore obliged to depend a great deal upon counsel, and do so.

Q. I called your attention to your affidavits attached to these petitions in which you stated you had special knowledge in regard to those special subjects and transactions and I asked you, quoting the statements, if those statements were true at the time you signed those affidavits and you stated they were and that they were true to-day?

A. I might add that most of my knowledge on that subject would be such as I derived from counsel in the proceedings.

Q. What did you mean by using the words "Special franchises" in verification of the 1905 and 1906 complaints?

A. The understanding of the term, "Special fra-chise"?

Q. Yes.

A. Why, it was a name given by the Act of the Legislature to our right to occupy the streets and to the tangible property in the streets, that is my understanding of it.

By Mr. MATHEWSON:

Q. You know that in the present charter of the City, the Greater

New York Charter, there are limitations respecting the granting of franchises, making them more difficult to obtain and providing that they shall be limited to 25 years and so on?
4259

A. Yes, sir; that there are such limitations and that the value of existing franchises must be therefore greatly enhanced.

By Mr. BURR:

Q. May I ask one question of Mr. Carter. I want to call your attention to City's Exhibit 55, being a statement appearing in the Tribune of April 15th, 1904, and ask you whether you know that that was an official statement issued by the Consolidated Gas Company at that time?

A. I know nothing about it, Mr. Burr, whatever. I should say it was not an official statement because as such I should expect to have some knowledge of it. As I have not, I am forced to the conclusion that it is not.

Q. Are you acquainted with Mr. Harry C. MacDona?

A. No, sir; I do not recall ever having met him. I know him by reputation and by name, but that is the extent of my acquaintance or knowledge of him.

Q. Is he not entered on the books of your company as an employee?

A. His name appears as a special counsel with a retainer; not I should say as an employee, but his name appears for convenience sake on the pay-roll.

Q. Was he not an employee of the Consolidated Gas Company on April 15th, 1904?

A. That I am unable to say without—I can find that out for you, but I really do not know.

Q. Do you mean to say, Mr. Carter, that that statement in the Tribune or in any of the papers of that date was never called to your attention heretofore?

A. It was in connection with this case, because I understood you had asked some question about it and I read it then for the first time.
4260

Q. Do you know whether any disavowal of that statement was ever issued by the Consolidated Gas Company?

A. I have no knowledge of the original publication of it, nor have I of any disavowal of it.

By Mr. MATHEWSON:

Q. You have seen a great many things published respecting the Consolidated Gas Company which were not so and which you have never seen any official disavowal of?

A. I should say so. We carefully avoid all disavowals and all other newspaper discussion.

Q. I will ask you whether Mr. MacDona, so far as you know, was ever granted authority to outline the position of the company?

A. I am sure he was not, because there has been no record of it, and if he had been there would have been such a record.

By Mr. BURR:

Q. Was not this statement to which I called your attention appearing in the Tribune on the 15th of April, 1904, the day immediately preceding the public hearing before the Mayor on the Remsen Gas Bill, April 16, 1904?

Mr. MATHEWSON: I object to that as immaterial.

A. It is a question of dates. This is unquestionably April 15th. If you can say that the hearing before the Mayor was on April 16th, I should have to testify it was the day before, but that would be all.

Q. You have no special knowledge about the date of that public hearing?

A. None whatever.

4261 & 4262 Q. But that was the date of it just the same.

Mr. MATHEWSON: Well, you do not want to testify to that?

Mr. BURR: That was the date of the hearing. The Court will take judicial notice of that.

Adjourned at 4:45 P. M. to Tuesday, November 27, 1906, at 10:30 A. M.

Last Exhibits:

Complainant's 256.
State's, YY.
City's, 67.

4263 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIAN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, TUESDAY, *November* 27, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Page, Mr. Freedman.

4264 Mr. BURR: While I intended to, it seems I did not take an exception to your Honor's ruling that I was bound to call Mr. Carter as my own witness, on page 4216. I will now take an exception.

The MASTER: Note an exception.

Mr. BURR: Continuing on the subject of franchises, to which I called Mr. Carter's attention yesterday, I desire to read into the rec-

ord extracts from the testimony of Harrison E. Gawtry, President of the Consolidated Gas Company, the complainant herein, as the same appears in the printed report of the case entitled "The People of the State of New York *ex. rel.* Consolidated Gas Company of New York, respondent against State Board of Tax Commissioners, appellants; John Cunneen, Attorney for Appellants; Messrs. Boardman, Platt & Solely, attorneys for Relator-Respondents. This record is the printed record in the Court of Appeals.

I read from the same as contained in the printed volume in the Law Institute entitled Cases in the Court of Appeals, special franchise tax cases. July 1902-July, 1903. Volume 2127. I read from page 35 of the printed record:

"HARRISON E. GAWTRY, sworn for the plaintiff, testified:

Examined by Mr. PLATT:

Q. Where do you reside? A. No. 18 West 11th Street, New York.

Q. You are the President of the Consolidated Gas Company? A. Yes, sir.

Q. How long have you been president of that company? A. Since January, 1894."

Mr. BURR: On page 38:

"Mr. PLATT: In the return to the writ of *certiorari* in this
4265 case appears the following sentence: 'That, among other things, respondents ascertained that the relator had heretofore claimed the value of its franchises to be upward of $7,000,000.' I want to ask if counsel himself can tell me what is referred to in that sentence?

Mr. FIERO: That is an application which was made for reduction of assessments, I think, in 1899, to the Local Board of the City of New York, where it was set out for the purpose of obtaining a reduction that the franchises were worth $7,000,000. We shall want to present that document sooner or later.

Q. You understand that that statement in the return refers to a statement which was made in the annual tax statement of the company to the New York City Department of Taxes and Assessments for 1899? A. Yes, sir.

Q. That was made on the blank of the New York City Tax Department, in accordance with their requirement? A. Yes."

Mr. BURR: On page 41:

"Q. What did that $7,781,000 represent? A. It represented the good will of the Consolidated Company; the right to exist as a corporation; contracts with the City, etc.

Q. The right to make and sell gas? A. Yes, sir.

By the REFEREE:

Q. The right to occupy the streets, I suppose; was that included? A. Yes, sir.

By Mr. PLATT:

Q. In making the returns to the Tax Commissioners, did the $7,781,000 have reference to the franchise? A. To all those items.

Q. In fact, everything that the company had except the tangible property? A. Yes, sir.

4266 Q. The company made on Form 2 of the State Board of Tax Commissioners, under date of December 20th, 1899, a supplemental report, showing the cost of reproduction of the tangible property in the streets; it shows the cost of reproduction at $4,100,-364.93; the statements in this report are true? A. Yes, sir.

Q. Is that cost of reproduction of the pipes and tangible property in the streets made up on the basis of new pipe? A. What new pipes would cost."

Mr. BURR: And continued on page 42:

"Q. Of the same diameter and same length put down would cost? A. Exactly.

Q. That is, what would it cost to put them down at the time the report was made up? A. Yes, sir.

Q. That did not then represent the actual value of the pipes as they stood in the street at that time; did not represent the cost of putting them in new? A. At that time.

Q. What reduction would you make, from your knowledge as an expert in the business, for depreciation? A. I should say all the way from 10 to 20 per cent.

Q. A great many of these pipes of the company had been down a great many years? A. Yes, sir.

Q. Going back for how long a period? A. Sixty years.

Q. Varying all the way from sixty years down to date? A. Yes, six months.

Q. You think it is at least 10 per cent.? A. I should say 10 per cent. was a very conservative estimate.

Q. The pipes and property in the streets was assessed the
4267 previous year by the local assessors at $5785,000; how do you explain the difference? A. The first year that mains were taxed as real estate the local assessors fixed a valuation per foot for each size named, as I understand it, and that has never been varied, and as additional mains have been laid from year to year the report has been made to the department, and the tax has been fixed upon the old estimates of the cost per foot.

Q. Has the cost of construction decreased since that time? A. I should say at least 25 per cent."

Mr. BURR: Also on page 43:

"Q. I understood you to say in arriving at the value of the tangible property in the streets for the purpose of these reports no allowance was made for the depreciation by reason of age. A. I don't think there was.

Q. Who made up those figures? A. Mr. Zolikoffer, the secretary of the company.

Q. Did you assist in the preparation of those figures? A. No, sir."

Mr. BURR: And on page 44:

"Q. Then you have no personal knowledge on that subject? A. On the special subject; no, sir.

Q. You don't know whether any such allowance was made or not? A. I do not."

Mr. BURR: On page 45:

"Q. A question or two about this item of $7,000,000, which you explained on your direct examination; that you say in 1884 represented what? A. It was put down for the good will of the
4268 constituent companies, any contracts they might have had and did have with the City, the right to exist as a corporation.

Q. In short, all of their intangible property; it included all their franchises, did it not? A. It included everything.

Mr. BURR: And on page 46:

"Q. Have there been any new franchises conferred upon this company since 1884? A. No.

Q. So whatever franchises you had then you have now? A. Yes, sir."

Mr. BURR: Page 47:

"Q. They have asked you concerning an estimate made about the franchises of this company *in* this blank to the City of New York authorities; you don't regard the value of the franchises of a company fluctuating with the value of the stock, do you? A. No, sir."

Mr. BURR: Page 49:

"Q. What was the value of the stock of this company on the second Monday of January, 1900?

Objected to as incompetent, immaterial and irrelevant; objection overruled; exception.

A. I cannot state the value of the whole stock of the company at the time stated. On Monday, January 8, 1900, according to the best reports I have been able to obtain of transactions on the New York Stock Exchange, 387 shares of the stock of the Consolidated Gas Company were sold at $193 per share; this price was not representative of the value of the whole stock of the company, but merely represents the amount that speculators on the Exchange were
4269 willing to pay on that day for that number of shares; the stock was being speculated in about that time, and the stock varied according to the speculative demand and supply very largely, from about 160 to 220 or 230; it would be impossible to estimate the value of the whole stock of the company, or any large amount thereof, from the sales of the Stock Exchange on any particular day; if any large amount of stock were offered on the market at one time, undoubtedly the price would decline largely and *vice versa,* and if the whole capital stock were offered, it is doubtful whether there would be any market for it; certainly no one can state what the value would be."

Mr. BURR: When Mr. Carter procures the data which I have asked him for, I propose to examine him in regard to that further. That is all I have at present on the question of special franchises.

Mr. BURR: Mr. F. Augustus Schermerhorn appears here in pur-

suance to a subpœna, and at the request of Mr. Mathewson we stipulate that he may appear at eleven o'clock on Monday.

Mr. MATHEWSON: No, do not put it at the request of Mr. Mathewson it is stipulated he may appear here on Monday at eleven o'clock, or any other time.

Mr. BURR: What do you desire to do, Mr. Mathewson?

Mr. MATHEWSON: I am not prepared to make any stipulation respecting it. The witness says he will come later, if you want him.

The MASTER: That ought to be sufficient for your purpose, Mr. Burr. Excuse him until Monday.

Mr. BURR: Well, you are excused until Monday, Mr. Schermerhorn.

4270 We will now take up the subject of marginal streets, and Mr. Freedman of our office will present the evidence for the city in that regard.

Mr. FREEDMAN: The title to all the lands under water from high water mark out into the North, East and Harlem Rivers was vested at a certain time in the Mayor, Aldermen and Commonalty of the City of New York under the ancient charters and statutes of the Legislature.

Mr. MATHEWSON: I must object to this, Mr. Master, as being conclusions of the witness. It seems to me that the documents, and so on, that contain this are the best evidence.

Mr. BURR: You have the documents, have you?

Mr. FREEDMAN: I have.

Mr. BURR: Well, produce the documents, please, to justify any statements you make.

The MASTER: That is hardly the way to prove title, Mr. Burr. If he makes any claim about the title, introduce the grants and statutes in evidence in the ordinary way.

The WITNESS: I offer in evidence the Dongan Charter of 1683, with special reference to Section 3, contained on page 198 of David T. Valentine's compilation of the laws of the State of New York, relating particularly to the City of New York, which is as follows:

"And I do, by these presents, give and grant unto the said Mayor, Alderman and Commonalty of the said City of New York, all the waste, vacant, unpatented and unappropriated lands, lying and being within the said City of New York, and on Manhattan's Island aforesaid, extending and reaching to the low water mark, in, by and through all parts of the said City of New York, and Manhattan's Island aforesaid, together with all rivers, rivulets, coves,

4271 creeks, ponds, waters and water courses in the said City and Island, or either of them, not heretofore given or granted."

Received in evidence as City's Exhibit 68, but not marked.

Mr. FREEDMAN: We offer in evidence the Montgomery Charter of 1730, and refer particularly to Section 37, contained on page 244 of the same compilation, consisting of a confirmation of the Dongan Charter in words and language as follows:

"And also to make laws and rules for the governing and well ordering of all the ferries now erected or established, or hereafter to be erected or established round the said Island of Manhattan's, and

all the waste, vacant, unpatented and unappropriated lands lying and being within the said City of New York and on Manhattan's Island aforesaid, extending to low water mark."

And also to Section 38, contained on page 245 of the same compilation, as follows:

"And also, we do further, of our special grace, certain knowledge and meer motion, give, grant, ratify and confirm unto the said Mayor, Alderman and Commonalty of the City of New York and to their successors forever, all that space of ground and soil of Hudson's River now lying and being under the water of the same river, to begin at a certain place near high water mark near the south end of a piece of up-land, which lies between the said river and a piece of meadow ground or marsh, being the first piece of meadow ground
or marsh near Hudson's River, to the southward of Green-
4272 wich, and from whence the above named run of water called Bestaver's Killitie or Rivulet, runs into Hudson's River, from which place of beginning to extend or run to the south side of the street, which runs from the parade before our fort in New York to Hud[illegible]s River, south 18 degrees, 30 minutes west, on a straight line, the distance being 125 chains, from which line to run a perpendicular breadth of, and to comprehend 400 feet from low water mark into Hudson's River, the same containing 82 acres and one-half acre or thereabouts. And also, all that space of ground and soil of the East River, from the north side of Corlaer's Hook to Whitehall, beginning at two large stones set on the south side of a small creek, in a marsh on the north side of Corlaer's Hook; from whence to the easter-most point of Corlaer's Hook, the distance on a straight line running south 15 degrees, 30 minutes east, is 40 chains and two rods; from thence to Whitehall, on a straight line, running south, 78 degrees, 30 minutes west, the distances is 152 chains, from which two lines to run a perpendicular breadth of, and to comprehend 400 feet from low water mark into the East River, the same containing 127 acres or thereabouts."

Received in evidence as City's Exhibit 69, but not marked.

Mr. FREEDMAN: From Kent's Comments on the Charter and Rights of the Corporation, it appears that Bestaver's Killitie, from the best information obtainable, was located on or about the foot of Charlton Street, North River.

The defendant, the City of New York, offers in evidence Chapter
584 of the laws of 1732, contained on pages 250 and 251 of the
same compilation, and especially refers to the third section
4273 thereof. That is, the act confirming the two charters, the 1730 Act, the Montgomery Charter and the Dongan Charter, and it is as follows:

"And be it enacted by the authority aforesaid, that all and singular letters patent, grants, charters, and gifts, sealed under the great seal of the Colony of New York, heretofore made and granted unto the Mayor, Aldermen and Commonalty of the City of New York, and are to all intents and purposes, hereby ratified and confirmed."

Received in evidence as City's Exhibit 70, but not marked.

Mr. FREEDMAN: I offer in evidence Chapter 115 of the Laws of

1807, and especially refer to Section 15 thereof, found on page 808 of the same compilation, which is as follows:

"And whereas, for the purpose of duly regulating and construction slips and basins, and for running out wharves and piers, it is essential that the right to the land under water, below low water mark, should be vested in the corporation of the City of New York. Be it therefore further enacted, that it shall and may be lawful for the Commissioners of the land office, and they are hereby directed to issue letters, patent, granting to the Mayor, Aldermen, and Commonalty of the City of New York, and their successors forever, all the right and title of the people of this State to the lands covered with water, along the easterly shore of the North or Hudson's River, contiguous to and adjoining the lands of the said Mayor Aldermen and Commonalty, within the said City of New
4274 York, at and from low water mark, and running four hundred feet into the said river from Bestaver's Killetjie or River, to the distance of four miles to the north along the easterly shore of the said North or Hudson's River; and also all the land covered with water, along the westerly shore of the East River or Sound, contiguous to and adjoining the lands of the said Mayor, Aldermen, and Commonalty, at and from low water mark, and extending 400 feet into the said river, or Sound, from the north side of Corlear's Hook, at the northerly boundary of the lands covered with water, whereof the said Mayor, Aldermen and Commonalty are now seized, to the distance of two miles to the north, along the westerly shore of the said East River, or Sound; Provided always, that the proprietor or proprietors of the lands adjacant shall have the pre-emptive right in all grants made by the corporation of the said City, of any lands under water granted to the said corporation by this Act."

Received in evidence as City's Exhibit 71, but not marked.

Mr. FREEDMEN: I offer in evidence certified copies of letters patent granted under and pursuant to the provisions of said Act.

Received in evidence and marked City's Exhibit 72.

Mr. FREEDMAN: Defendant offers in evidence Chapter 58 of the Laws of 1826 and especially refers to the 1st Section thereof, which is as follows:

"Be it Enacted by the People of the State of New York,
4275 represented in Senate and Assembly that it shall and may be lawful for the Commissioners of the Land Office, and they are hereby directed to issue letters patent, granting to the Mayor, Aldermen, and Commonalty of the City of New York, and their successors forever, all the right and title of the people of this State to the lands covered with water along the easterly shore of the North or Hudson's River, contiguous to and adjoining the lands of the said Mayor, Aldermen and Commonalty within the said city of New York at and from low water mark, and running 400 feet into the said river, from a point on the easterly shore of said river, four miles north of Bestaver's Killitje, and extending therefrom north along the easterly shore of said river, to Spyden Duyvil Creek, otherwise called Kingsbridge Creek or Harlem River; and also all the land covered with water along the westerly shore of the East River or

Sound contiguous to and adjoining the lands of the said Mayor, Aldermen and Commonalty, at and from low water mark, and extending 400 feet into the said river or sound from a point on the westerly shore of said river or sound two miles north fr-m Corlaer's Hook and extending therefrom north along the westerly shore of the said East River or Sound, to Spyden Duyvil Creek, otherwise called Harlem River: provided always that the proprietor or proprietors of the lands adjacent, shall have the pre-emptive right in all grants made by the corporation of the said city, of any lands under water granted to the said corporation by this Act."

Received in evidence as City's Exhibit 73, but not marked.

Mr. FREEDMAN: I offer in evidence letters patent issued
4276 under and in pursuance of said Act, conveying the property therein described.

Received in evidence and marked City's Exhibit 74.

Mr. FREEDMAN: I offer in evidence Chapter 166 of the Laws of 1826, and refer particularly to the first section thereof, contained on page 825 of the same compilation, which is as follows:

"Be it enacted by the People of the State of New York, represented in Senate and Assembly, that Tompkins Street, along the East River, as laid out and approved by the Mayor, Aldermen, and Commonalty of the City of New York, shall be the permanent exterior street on the East River, between Rivington Street and 23rd Street; and East Street on the said river, between Grand Street and Rivington street, as laid out and approved as aforesaid, shall be the permanent exterior street, as so laid out and approved; and that all grants made or to be made by the said Mayor, Aldermen, and Commonalty shall be construed as rightfully made to extend thereto; and that all the provisions of the Act, entitled 'An Act to reduce several laws relating particularly to the City of New York into one Act,' passed April 9, 1813, and the several Acts amendatory thereof and in addition thereto, shall be construed to apply to said Tompkins Street and East Street."

Received in evidence as City's Exhibit 75, but not marked.

Mr. FREEDMAN: Defendant offers in evidence map produced from Department of Public Works, City of New York, bearing endorsement in blue lead pencil, "East River shore, Corlaer's to 28th
4277 Street, March 7, 1825;" and it bears the endorsement on the front of it, "In Common Council, March 7, 1825, upon the report of the Finance Committee on recommendation of Peter G. Stuyvesant, this map was presented and was accepted and approved by the Board. J. Martin, Clerk;" the map being of Tompkins Street, and especial reference being made to that portion of the map which shows Tompkins Street between 12th and 16th Streets. An extract from such map will be furnished to the attorney for the complainants.

Mr. MEAD: Do you claim that this map proves itself?

Mr. FREEDMAN: I think so, under the Common Council endorsement, and as an ancient document.

Mr. MEAD: You have not proved that endorsement.

Mr. FREEDMAN: It is right on the face of it.

Mr. MEAD: It does not appear where the map came from.

Mr. FREEDMAN: We produced it from the Department of Highways, as stated.

Mr. MATHEWSON: The complainant produced certain ancient transfers and assignments relating to said grants signed by Okie Hall and others, which I understand the City does not admit, although the signatures are well known. Accordingly, we will not admit the signatures on this map, but we are willing to reciprocate if ours are admitted.

Mr. BURR: The grants to which Mr. Mathewson has made reference have not been accepted because they are mutilated, and the mutilation is apparent upon their face, and they are improperly acknowledged, and that is apparent upon the face of them.

Mr. MATHEWSON: This map is not acknowledged at all.

Mr. BURR: I offer this map in evidence.

Mr. MATHEWSON: I object to it as not proven.

4278 Mr. FREEDMAN: Mr. Hatton is right here, and can testify he brought that down from the department.

The MASTER: It is understood that the map came from the proper custody, of course. Mr. Hatton may be called later, so as not to interrupt the orderly procedure.

Mr. MEAD: I think it should appear it has been in that custody thirty years.

Mr. FREEDMAN: No, twenty years, under the Section of the Code.

Objection overruled; exception.

Received in evidence as City's Exhibit 76, but not marked.

Mr. FREEDMAN: We offer in evidence Chapter 182 of the laws of 1837, on page 842 of the same compilation, and particularly refer to Sections One and Three of the same, which are as follows:

"SECTION 1. The Thirteenth Avenue, as laid out on a map made by George B. Smith, City Surveyor, bearing date March 10th, 1837, and approved by the Mayor, Aldermen and Commonalty of the City of New York, by a resolution passed in Common Council, on the 28th day of March, 1837 (which map is filed in the office of the Street Commissioner of the City of New York), shall be the permanent exterior street or avenue in the said city along the easterly shore of the North or Hudson River, between the southerly line of Hammond Street and the northerly line of 135th Street."

* * * * * * *

"SECTION THREE. The Mayor, Aldermen, and Commonalty of the City of New York, shall be, and they are hereby, vested with all the right and title of the People of this State, to the lands

4279 covered with water along the easterly shore of the North or Hudson's River, between Hammond Street and 135th Street, and extending from the westerly side of the lands under water, heretofore granted to said Mayor, Aldermen, and Commonalty of the City of New York, by letters patent, in pursuance of the Act, Entitled 'An Act Relative to Improvements in the City of New York,' passed February 25, 1826, to the westerly side of the said Thirteenth Avenue. And the said letters patent shall be construed so as to grant to the said Mayor, Aldermen and Commonalty of the City of

New York, and their successors forever, the said lands under water easterly of the westerly line of the said Thirteenth Avenue."

Received in evidence as City's Exhibit 77, but not marked.

Mr. FREEDMAN: I offer in evidence a map entitled "A Map showing the projected exterior line of the City of New York extending along the Hudson River from Hammond Street to 135th Street."

The name Hammond was changed to West 11th Street. It is signed, "New York, March 10, 1837, George B. Smith, City Surveyor," and especial reference is made to that part of the map which lies between 41st and 46th Streets westerly of 11th Avenue.

Mr. MEAD: Do you offer the whole map? There is a whole lot in there as to ownership.

Mr. FREEDMAN: No; as to 13th and 12th Avenues.

Mr. MATHEWSON: Same objection to this map as to the offer of the preceding map.

The MASTER: It will be received on the same understanding. Exception.

Received in evidence as City's Exhibit 78, but not marked.

4280 Mr. FREEDMAN: This map is approved by the 1st section of the Act which recites the Act under which it was made, that the map made by George Smith, bearing date March 10th, 1837, and approved by the Mayor, Aldermen and Commonalty of the City of New York, by a resolution passed in Common Council, on the 28th day of March, 1837 (which map is filed in the office of the Street Commissioner of the City of New York), shall be the permanent exterior street or avenue in the said City along the easterly shore of the North or Hudson River, etc.

Mr. MATHEWSON: And how is it proved by the map?

Mr. FREEDMAN: We give the title, we give the date, we give the distance, which shows that it is the very map referred to in this section.

Mr. MATHEWSON: No, there is no evidence that this is that map yet.

The MASTER: That is a matter of argument. Proceed.

Mr. FREEDMAN: We offer in evidence Chapter 285 of the Laws of 1852, at page 859 of the same compilation, which authorizes the City to lay out and fix the permanent exterior street on the Harlem River, passed April 14, 1852, which is as follows:

"The People of the State of New York, represented in Senate and Assembly, do enact as follows:

"SECTION 1. It shall be lawful for the Mayor, Aldermen, and Commonalty of the City of New York to lay out and fix a permanent exterior street, along the shore of the Harlem River in the City of New York, between the East River or Sound and the North or Hudson River, and to cause a map thereof to be made; and which map,

4281 when approved of and ratified by the said the Mayor, Aldermen, and Commonalty, shall be filed in the office of the Street Commissioner of said City.

SECTION 2. The several streets and avenues of said city, as laid out on the map or plan made by the commissioners appointed by the Act entitled 'An Act relative to improvements touching the laying

out of streets and roads in the City of New York, and for other purposes,' passed April third, eighteen hundred and seven, or as subsequently established by law, shall be continued and extended along the present lines thereof, from their present terminations on the said map or plan respectively to the said exterior street and permanent line.

SECTION 3. The mayor, aldermen, and commonalty of the City of New York shall be, and they are hereby, vested with all the right and title of the people of this State to the lands covered with water along the shore of the said Harlem River, from the East River or Sound to the North or Hudson River, and extending from low water mark to and including the said exterior street or permanent line.

SECTION 4. The proprietors of all grants of land under water, or owner or owners of all lands adjacent to those hereby granted, shall have the pre-emptive right in all grants which may be made by the said, the Mayor, Aldermen, and Commonalty of the City of New York, if any, of the lands under water granted to them by this act, adjacent to and in front of the said lands under water heretofore granted by the said the Mayor, Aldermen, and Commonalty of the City of New York.

SECTION 5. This act shall take effect immediately."

Received in evidence and marked City's Exhibit 79, but not marked.

4282 Mr. FREEDMAN: We produce in evidence a map entitled, "A Map of the Exterior Street in the City of New York Along the Shore of the Harlem River from 89th Street on the East River to the North or Hudson River, laid down in conformity with the exterior line as established by the Harbor Commissioners by virtue of the Act of the Legislature passed April 15, 1857; survey, in accordance with a resolution of the Common Council approved 1858, made by H. L. Southward, City Surveyor, 1858/9."

It bears the endorsement also, "E. A. T., September 12, 1859, Street Commissioner H. F. K. Received, Street Commissioner's Office, 10th September, 1859, M. Lully (?), Deputy Street Commissioner;" also the endorsement: "Adopted by the Board of Aldermen, September 26, 1859, adopted by the Board of Councilmen, October 20, 1859, approved by the Mayor, October 28, 1859, signed by D. T. Valentine, Clerk of the Common Council."

Same objection; same ruling; exception.

Mr. FREEDMAN: The scale is 100 feet to the inch, and it refers particularly to that portion of the map between 110th and 114th Streets.

Received in evidence as City's Exhibit 80, but not marked.

Mr. FREEDMAN: We offer in evidence from the approved proceedings of the Board of Aldermen, a resolution adopted by the Board of Aldermen, September 26, 1859, and adopted by the Board of Councilmen October 20th, 1859, and approved by the Mayor, October 29, 1859, approving this map.

Mr. MEAD: Have you got it here?

Mr. FREEDMAN: No, I haven't got it here.

Mr. MATHEWSON: I object to this until the resolution is produced and we see what it is.

4283 Mr. FREEDMAN: We will furnish copies.

Mr. MATHEWSON: I know. I think we have got to determine whether it is permissible or not by seeing what the resolution is.

The MASTER: The ruling will be reserved on that until it is produced.

Mr. FREEDMAN: Now we offer in evidence—I think we stated that there would be no interruption outside of taking this documentary proof, so Mr. Hatton would have to come from the Department of Highways to prove these maps, unless Mr. Mathewson will concede them. Mr. Hatton is here now and can testify.

The MASTER: Is this all?

Mr. FREEDMAN: There are the water grants.

The MASTER: Go on and put them in and call Mr. Hatton afterwards.

Mr. FREEDMAN: We offer in evidence from Liber H, page 410 of Water Grants, produced from the Comptroller's office, a grant to Hezekiah Bradford, dated June 22nd, 1846, of land under water between 14th and 15th Streets and East River, with the map thereto attached. The grant is from the Mayor, Aldermen and Commonalty of the City of New York to Hezekiah Bradford, dated the 22d day of June, 1846, and covers premises extending from high water mark out to Tompkins Street and between 14th and 18th Streets.

Mr. MATHEWSON: Do you mean 14th Street or 18th Street?

Mr. FREEDMAN: It extends on the Tompkins Street front from 14th to 18th Streets, and on the high water mark between 14th and 15th Streets.

Mr. BURR: Will you have a tracing of this map made?

Mr. FREEDMAN: Yes, sir; I will have a tracing of the entire water grants and a tracing of the maps made.

4284 Mr. MEAD: It has not been proved yet.

Mr. FREEDMAN: It proves itself; it is under seal.

Mr. MATHEWSON: Is it acknowledged?

Mr. FREEDMAN: It does not seem to be acknowledged.

Mr. MATHEWSON: Then I will object. The deed is not proven.

Mr. BURR: Have you the original of this deed?

Mr. MEAD: I could not say. I never had anything to do with it.

Mr. MATHEWSON: There is no question but what these water rights were substantially vested in the Consolidated Gas Company?

Mr. FREEDMAN: There is no question that whatever rights are in these grants became vested in the Consolidated Gas Company. I have not examined the *inter sese* conveyances at all.

Mr. MATHEWSON: If it will be conceded that these water grants subsequently became invested in the Consolidated Gas Company, as they were, I will withdraw objection to the proof of these deeds, and so forth.

Mr. FREEDMAN: I do not think there will be any objection to admitting or conceding that whatever title was obtained under these water grants became vested in this gas company.

Mr. MATHEWSON: That is all. It will simply save us the trouble of putting in a lot of mean conveyances.

Mr. FREEDMAN: Yes.

Mr. MATHEWSON: In view of that, and as it will save us the trouble, I think we will withdraw, and I do withdraw, the objections to these grants.

Mr. BURR: Then the objections to the grants that have been heretofore interposed are withdrawn?

Mr. MATHEWSON: Yes, on Mr. Freedman's concession.

Mr. FREEDMAN: It is hereby conceded by the City that
4285 whatever title was conveyed by the Mayor, Aldermen and Commonalty under and pursuant to the water grants introduced in evidence in this action subsequently became vested in the Consolidated Gas Company by various mean conveyances.

Mr. MATHEWSON: And that refers not only to the deeds which you have produced, but those which you propose to introduce?

Mr. FREEDMAN: Yes, I say the water grants referred to in the testimony here.

Paper received in evidence as City's Exhibit 81, but not marked.

Mr. MATHEWSON: We understand that the City will produce and will inform us respecting any other or further grants relating to these companies from the City which Mr. Freedman has produced, and which he is about to produce.

Mr. BURR: I think you should concede, in view of these concessions, that the Tompkins Street which appears upon the map attached to this grant to Bradford, is the Tompkins Street which appears on your Exhibit 48.

Mr. MATHEWSON: I know of only one Tompkins Street, but whether it may have been widened or changed, or some other thing, I do not know. If it has been, the City has that all in its possession and can produce it.

Mr. FREEDMAN: So far as my investigations are concerned, from 1809 down to the present time, it has never been widened, and its position has not been changed, and these grants were made with reference to the Tompkins Street as laid down on the map.

The defendant, the City of New York, offers in evidence counterpart of a water grant to John J. V. Westervelt, contained in Liber
H, page 471, of the land between 44th and 45th Streets,
4286 together with the map accompanying said grant. The grant extends from high water mark out to the easterly side of 13th Avenue, which is the exterior line established by law, and from the centre of 44th Street to the center of 45th Street in front of the land of John J. V. Westervelt.

Received in evidence as City's Exhibit 82, but not marked.

Mr. FREEDMAN: The defendant, the City of New York, offers in evidence counterpart of a grant from the City of New York to John J. V. Westervelt of the land between the center line of 45th Street and the center line of the block between 45th and 46th Streets, extending from high water mark out to 13th Avenue, the exterior line established by law, dated the 1st day of May, 1850; signed by the grantee, together with map attached thereto.

Received in evidence as City's Exhibit 83, but not marked.

Mr. FREEDMAN: The defendant, the City of New York, offers in evidence grant made by the Mayor, Aldermen and Commonalty of the City of New York to Francis B. Cutting and Charles C. King, dated 18th of July, 1850, of premises extending from the center line of the block from 45th to 46th Street to within about 32 feet of the southerly line of 47th Street and extending from high water mark out to Thirteenth Avenue, the exterior line established by law, together with map attached thereto.

Received as City's Exhibit 84, but not marked.

Mr. FREEDMAN: The defendant, the City of New York, offers in evidence grant from the Mayor, Aldermen and Commonalty
4287 of the City of New York to Charles E. Appleby, dated August 27th, 1857, contained in Liber I, page 193 of Counterparts of Water Grants, of land between the center line of 41st Street and the center line of 42d Street, extending from the original high water mark out to the Thirteenth Avenue, the exterior line as established by law, and the map attached thereto.

Paper received as City's Exhibit 85, but not marked.

Mr. FREEDMAN: The defendant, the City of New York, offers in evidence grant to the Harlem Gaslight Company, contained in Liber I, page 514, of land between 110th and 111th Streets, and the Harlem River, dated the 20th day of August, 1870, and the map thereto attached, extending from the center line of 110th Street to the center line of 111th Street, extending from the original high water mark out to the bulkhead and pier-head line.

Paper received as City's Exhibit 86, but not marked.

Mr. BURR: Mr. Hatton is going. It is not necessary for him to be called under your withdrawal of your objection?

Mr. MATHEWSON: No. These are all the grants to which your concession related? You have put them all in now which you have here?

Mr. FREEDMAN: Yes.

Mr. MATHEWSON: Then I withdraw any objection that I have made to the proof of these originals, they being, of course, accessible to us whenever we desire, and you to furnish us copies.

Mr. FREEDMAN: Yes.

The MASTER: Do I understand you are all finished with the exception of your Doctor Marks matter?

4288 Mr. BURR: Why, no; I have subpœnaed all the Directors——

The MASTER: I mean outside of the directors.

Mr. BURR: Then I have my accountants. Their report will be ready, I expect, by Monday.

The MASTER: Are we to have two sets of accountants? Is Senator Page to introduce accountants' testimony?

Mr. BURR: No, he has no accountants. The City has had their set of accountants at work since October.

JAMES L. WELLS resumed.

By Mr. PAGE:

Q. I believe Block 979 is the next. Have you viewed that property?

Mr. MATHEWSON: He covered that, did he not?

The WITNESS: No, I commenced on it and then we stopped.

Q. Block 979 is the block between Avenue A, marginal street, 22d and 21st Streets.

A. I have that block, and I have appraised that block, including a small portion shown on the map as No. 29.

Q. Shown on what map?

A. On the tax map, as being assessed to the City.

Q. But in your computation you have included that?

A. I have included that in the ownership of the gas company.

Q. What total valuation did you give?

A. My total is $413,406.

Q. How did you arrive at that total?

A. I valued two corners of Avenue A at $12,500 each,
4289 $25,000; two lots adjoining, $10,000 each, $20,000; three lots on Avenue A, $9,000 each, $27,000; one lot on Avenue A, 22 feet 6 inches front by 100 feet in depth at the rate of $9,000, $8,100; I valued the plot on the southwesterly corner of marginal street and 22d Street, about 173 feet along the center line of the block by 98 feet 9 inches in the rear and containing about 17,000 square feet, at $51,000; I valued a plot on the northwesterly corner of marginal Street and 21st Street, 151.25 feet on 21st Street, by about 125 feet along the marginal street and about 73 feet along the center line of the block and 98 feet 9 inches in the rear, and containing 11,074 square feet, at $44,296; I valued 20 lots on 21st Street, at the rate of $6,500 each, $130,000; sixteen lots on East 22d Street at an average of $6,750, $108,000, making $413,406. This assumes that the company has a frontage on marginal street from 21st Street to 22d Street.

Q. Well, even if the City had taken the plot, they would still have a frontage?

A. They would, but not the entire frontage. I say this assumes that the company has a frontage on the marginal street from 21st to 22d Streets.

By Mr. MATHEWSON:

Q. But there is no independent owner between the company and the street?

A. There is no independent owner.

By Mr. PAGE:

Q. Now Block 978.

A. Block 978 is the entire block between Avenue A, Avenue B, 20th and 21st Streets, with the exception of a parcel known as No. 332 Avenue A, being 23 feet wide and 70 feet in depth.

Q. At what did you value the property, excluding that
4290 one lot which you mention?

A. I valued that at $368,265.

Q. How did you arrive at that valuation?

A. I made an independent sub-division of the block, making the lots as nearly as possible 25x100 feet, and I valued two corners of Avenue A at $12,500 each, making $25,000; two lots next the corners, each 25 by 100 feet, at $10,000, $20,000; one lot, 50 feet south of the corner of 21st Street, 25 feet by 100 feet, at $9,000; one lot, 17 feet by 100 feet north of No. 332, at the rate of $9,000, making $6,120; a small plot in the rear of No. 332, 23 feet by 30 feet, I valued at $1,325; that comes that way (indicating) and would be the rear of that lot; and one lot, 19 feet by 100 feet, at the rate of $9,000, $6,840; twenty lots on East 20th Street, at $6,750, making $148,500; twenty lots on East 21st Street, at $6,500, $143,000; one lot, 16 feet by 100 feet, on East 20th Street, at the rate of $6,750, making $4,320; one lot 16 feet by 100 feet on East 21st Street, at the rate of $6,500, $4,160.

Q. Now, you may take Block 987.

A. Block 987, I value it as shown on the schedule furnished me.

Q. Exhibit 48?

A. Yes, Exhibit 48, which shows that the block has a frontage of 184 feet on Avenue B, 84.54 feet on East 21st Street and 238.78 feet on East 20th Street. For the purposes of this appraisement I divided it into two parcels, taking the center line of the block, and I valued the northerly portion which contains about 9,025.20 square feet at $31,588, and the southerly or lower portion that contains 16,120.24 I valued that at $56,420, making $88,008.

Q. That is, assuming the size of the block as shown on Exhibit 48?

A. Yes, sir, and assuming that the company has a frontage on marginal street from 20th to 21st Streets.

Q. Block 1090, Lot 23, being a parcel on the north side of 42d Street, 100 feet west of Eleventh Avenue, and 150 feet by
4291 100 feet 5 inches.

A. There is six lots frontage in that parcel, and I valued it at $72,000.

Q. How did you arrive at that valuation?

A. $12,000 a lot.

Q. The next parcel is 1071, being on the north side of 42d Street, distance 225 feet east of Eleventh Avenue, 100 feet by 100 feet 5 inches.

A. Four lots frontage in that parcel. I valued it at $50,000, being $12,500 each.

Q. Block 1070.

A. 1070, Lot 5.

Q. Being the parcel on the north side of 41st Street, 100 feet east of Eleventh Avenue, 200 feet by 98 feet 9 inches.

A. I valued that parcel at $76,000. There are eight lots *lots* fronting on the street.

Mr. MATHEWSON: $9,500 a lot?

The WITNESS: Yes, sir.

Q. Now block 1089?

A. 1089 is the block bounded by Eleventh Avenue, Twelfth Avenue, West 41st Street and West 42d Street.

Q. In making your valuation have you assumed that the City owned Twelfth Avenue, or that the company owned Twelfth Avenue?

A. I assumed that the City owned it.

Q. Now, what value do you give on that assumption?

A. $584,500.

Q. You may state how you arrived at that result.

A. I valued one lot on the southwest corner of Eleventh Avenue and 42d Street at $17,500, and the adjoining lot at $12,500; the next lot at $11,000; two lots in about the center of the front on Eleventh Avenue, each 23 feet 9 inches by 100 feet, at the rate of $9,500 each, $19,000; one lot on the northwest corner of Eleventh Avenue and 41st Street at $14,000, and the adjoining lot at $10,500; the
4292 next lot at $10,000; twenty-eight lots on 42d Street at $11,500 each, making $322,000; and twenty-eight lots on 41st Street at $6,000 each, making $168,000; total, $584,500.

Q. Block 1092.

A. 1092 is the greater part of the block between Eleventh and Twelfth Avenues and 44th and 45th Streets. The frontage on Eleventh Avenue being out.

Q. And in valuing this block did you assume that the City owned Twelfth Avenue or the company owned it?

A. I assumed that the City owned Twelfth Avenue.

Q. You may give the total value of that block?

A. I value the block at $422,500.

Q. You may proceed to give how you arrived at that valuation.

A. I valued twenty-four lots on 44th Street at $7,500 each, $180,000; twenty-three lots on 45th Street at $7,500 each, $172,500; and eight lots on Twelfth Avenue, $70,000.

Q. Block 1093?

A. Block 1093, lot 1, is the greater portion of the block between Eleventh and Twelfth Avenues, 45th and 46th Streets.

Q. 500 feet on 46th Street and 575 feet on 45th Street?

A. Yes, forty-three lots. I valued them at $7,500 each, making $322,500.

Q. And in this case you have also assumed that the City owned Twelfth Avenue?

A. I have.

Q. Is Twelfth Avenue under water now?

A. A portion of it is; the greater portion of it is, I think.

Q. Now, block 1457?

A. 1457, No. 6, is about the center of the block bounded by First Avenue, Avenue A, 62d Street and 63d Street.

Q. What value did you place upon that?

A. I valued that at $149,230.

Q. How did you arrive at that value?

A. I valued ten lots on 62d Street at $7,500 each, making

$75,000; and eight lots on 63d Street at $8,000 each, making
4293 $64,000; I valued 16 feet 6 inches on 62d Street at the rate of $7,500, $4,950, and 16 feet 6 inches on 63d Street, at the rate of $8,000, $5,280, which gave me the total, $149,230.

Q. Block 1455?

A. Lot 13. It is practically the easterly half out of the block bounded by First Avenue, Avenue A, 60th Street and 61st Street.

Q. You may give the value of that.

A. I valued that at $185,500.

Q. How did you arrive at that result?

A. I valued the two corners on Avenue A at $12,500 each, making $25,000; two lots next the corners at $10,000 each, $20,000; four lots on Avenue A at $8,500 each, $34,500; eight lots on 60th Street at $6,500, making $52,000; one lots 13 feet wide by 100 feet deep on 60th Street at the rate of $6,500, $3,380; eight lots on 61st Street at the rate of $6,000, $48,000; one lot 13 feet wide by 100 feet in depth on 61st Street at the rate of $6,000, $3,120.

Q. Now, block 1474, lot 24?

A. That is a small triangular piece of land at the northeasterly side of Avenue A and 60th Street; it has a frontage of 64 feet on 60th Street and 114 feet 5 inches on Avenue A.

Q. And 30 feet on 61st Street?

A. No, it does not go through.

Q. Thirty feet on its northerly line, I mean; is that what you have it?

Mr. MATHEWSON: It is more than that.

The WITNESS: I don't know just what it is on the map. It shows that way on mine (indicating). The testimony says that there is 5,230 square feet, but I cannot make that out. The City assesses it for a lot and one-ninth of a lot, 1 lot and .09. It is nearly two lots.

Q. What did you assume?

A. I have assumed 5,230 feet because of the difference be-
4294 tween the two diagrams and my inability to find out that northerly dimension.

Q. What was the value you placed upon it?

A. $20,920.

Q. That is, assuming that there is 5,230 square feet?

A. Yes.

Q. Proceed with block 1177.

A. 1177 is the irregular block bounded by West End Avenue, the yards of the New York Central Railroad, West 65th Street and West 66th Street.

Q. What value did you place upon that?

A. I valued that property at $170,757.60.

Q. How did you arrive at that result?

A. I valued two corners at West End Avenue at $13,000 each, $26,000; two lots adjoining the corners at $10,000 each, $20,000; four lots on West End Avenue at $9,000 each, $36,000; fifteen lots on 65th and 66th Streets at $5,000 each, $75,000; and two gores along the railroad yards containing 6,878.8 square feet, $13,757.60, making my total of $170,575.60.

Q. Block 1157?

A. 1157, lot 1, is the entire block bounded by Amsterdam Avenue, West End Avenue, West 65th Street and West 66th Street. The block is 800 feet in length.

Q. By 200 feet 10 inches in width?

A. By 200 feet 10 inches in width.

Q. What value do you place upon that?

A. $596,000.

Q. How do you arrive at that result?

A. I valued two corners on West End Avenue at $14,000 each, $28,000; two lots next to the corner at $10,000 each, $20,000; four lots at $9,000 each, $36,000; two corners on Amsterdam Avenue at $25,000 each, $50,000; two lots next the corners at $14,000 each, $28,000; four lots on Amsterdam Avenue at $12,500 each, $50,000; forty-eight lots on 65th Street at $8,000 each, $384,000, making a total of $596,000.

4295 Q. Now, Block 1156, Lots 45 and 46.

A. I valued that parcel at $32,000, four lots at $8,000 each.

Q. Block 1670, Lot 1.

A. 1670, Lot 1, that is the entire block between Second Avenue and First Avenue, 98th and 99th Streets.

Q. What value do you place upon that block?

A. $463,000.

Q. How do you arrive at that result?

A. I value two corners on Second Avenue at $17,500 each, $35,000; two lots adjoining the corners $13,000 each, $26,000; four lots at $12,000 each, $48,000; two corners on First Avenue at $14,000 each, $28,000; two lots adjoining the corners at $10,000 each, $20,000; four lots on First Avenue at $9,000 each, $36,000; and thirty-six lots on 98th and 99th Streets, at $7,500 each, $270,000; making $463,000.

Q. The next is Block 1692, I have here.

A. I valued that at $191,114.

Q. You may give your method of arriving at that valuation.

A. That is the block bounded by First Avenue, marginal street, East 98th and East 99th Streets. I gave the value, did I not?

Q. Yes. The question is how you arrived at that value?

A. I valued two lots on two corners of First Avenue at $13,000 each, $26,000; two lots adjoining the corners at $8,500 each, $17,000; four other avenue lots at $8,000, $32,000; eight street lots at $5,000 each, $40,000; and a plot on the northwest corner of marginal street and 98th Street at $38,010; and on the southwest corner of marginal street and 99th Street at $38,104, making $191,114.

Recess until 2:15 P. M.

4296 After Recess.

JAMES L. WELLS resumes the stand and further testifies.

Direct examination continued by Mr. PAGE:

Q. Take up next Block 1683, Lots 18, 34 and 35.

A. Block 1683 consists of plot—one parcel is at the northwest corner of First Avenue and 111th Street, and the other parcels together form a plot 50 by 100 feet and 11 inches on the south side of 112th Street, 175 feet west of First Avenue.

Q. What is your total valuation?

A. $90,500.

Q. How did you arrive at that?

A. I valued a lot on the northwest corner of First Avenue and 112th Street at $15,000 and the adjoining lot at $12,000, and the next adjoining lot at $11,000; and I valued seven lots on the streets, at $7,500 each, which made $52,500; giving the total of $90,500.

Q. Now, take Block 1682.

A. Block 1682 is the greater part of the block bounded by Second Avenue, First Avenue, 110th Street and 111th Street. The property is situated on the west side of First Avenue extending from 110th Street to 111th Street and running back on each street 475 feet. I value that parcel at $371,000.

Q. How do you arrive at that?

A. I value the southwest corner of First Avenue and 111th Street at $17,500, and the lot adjacent to it at $13,000, and four lots at $12,000, making $48,000. I value the lot on the northwest corner of First Avenue and 110th Street at $17,000, and the lot adjacent to that at $13,000. Fifteen lots on 110th Street at $8,500, making $127,500; and fifteen lots on 111th Street at $9,000, making $135,000; making my total of $371,000.

Q. Now, take Block 1704, Lot 1.

4297 A. That is the entire block between First Avenue, Pleasant Avenue, 110th Street and 111th Street. I value that block at $364,500.

Q. Proceed to give us how you arrive at that.

A. I valued the northeast corner of First Avenue and 110th Street at $13,500, and a lot adjacent to the corner at $11,000; four other lots on Pleasant Avenue at $10,000, making $40,000; the northeast corner of First Avenue and 111th Street I valued at $15,000, and the lot adjacent——

By Mr. MATHEWSON:

Q. Wasn't that the southwest corner instead of the northeast corner?

A. Yes, sir, it is the southwest.

Q. At how much?

A. $15,000. And one lot adjacent at $12,000, and a lot on the northwest corner of Pleasant Avenue and 110th Street at $11,000; a lot adjacent at $8,000; the southwest corner of Pleasant Avenue and 111th Street at $13,000; 16 lots at 111th Street at $7,000, mak-

ing $112,000; and 16 lots on 110th Street at $5,500, making $88,000; which makes my total of $364,500.

By Mr. PAGE:

Q. Now, you may turn to the property, Block 1712 if you have that?

A. I have that, 1712. That is that little piece. I am unable to find any testimony as to area. I have approximated the area at 13,462 square feet.

By Mr. MATHEWSON:

Q. Under water?

A. No, it is not all under water. It includes some of the land under water but how much I do not know. I have taken the whole parcel.

4298 Q. Do you take in that computation the line from 110th to 111th Street?

A. I did, sir.

Q. Running out——

A. Running out to the dotted line in the atlases, which is the bulkhead line, as I understand it.

By Mr. PAGE:

Q. Now, what valuation did you place on that?

A. $53,848.

Q. Block 1999, Lot 1?

A. That consists of nearly all the block bounded by Broadway or the Boulevard, 12th Avenue, 132d and 133d Streets, about nine lots out on the Boulevard front. I valued that property at $346,200.

Q. Now, you may state how you arrived at that?

A. I valued Twelfth Avenue corners at $12,500 each, and the two lots adjoining the corners at $10,000; two 25-foot front lots at $8,000 each, and two lots each 23 feet 9 inches front at $7,600 each; and I value 45 street lots on 132d and 133d Street-, 23 of them on 132d Street and 22 on 133d Street, at $6,000 each, making $270,000, giving me my total of $346,200.

Q. Now, we will take block 2175?

A. Lots 15, 18, 22 and 100. That consists of a very irregularly shaped piece of land running from Broadway southeasterly to Jerome Avenue. I estimate that there is in those four parcels 65,253 square feet, or about 26 lots, and I value the plot at $89,375.

Q. I understand, Mr. Wells, that where there is property in large parcels you have taken into consideration the plottage in the figures that you have given rather than giving them separately?

A. I have, yes, sir.

By the MASTER:

Q. Have you computed the totals?

A. No, I have not had the opportunity. I will furnish

4299 them.

Mr. PAGE: We will do that.

Cross-examination by Mr. MATHEWSON:

Q. How long were you connected with the Department of Taxes and Assessments?

A. I was there during Mayor Strong's administration, the greater part of three years; and during the entire administration of Mayor Low, two years.

Q. It was not the custom in those days, was it, to appraise land at its full value in the City of New York, particularly the Borough of Manhattan?

A. The deputies took an oath that they would appraise it at what it would sell for in their judgment under ordinary circumstances.

Q. I am asking you?

A. I found many discrepancies between full value and the percentage at which——

Q. (Interrupting.) Didn't you find as a rule that the valuation for assessment was less than the value you would place upon that property if you were appraising it for a private owner?

A. Yes, sir; in many cases.

Q. Isn't that true in the majority of cases?

A. It was at that time.

Q. And when you say at what under ordinary circumstances the property would sell, exactly what do you mean? What manner of sale?

A. I mean what a willing purchaser is ready to give and what a willing seller is ready to accept.

Q. You had only a small part of this land appraised at the hearing last Friday?

A. I only appraised a small portion.

Q. And when we adjourned or when you suspended yesterday there was still a considerable part of the land that you had not yet appraised, is that right?

A. A considerable portion that I had not completed my figures on, but I had made my examinations.

4300 Q. Yes, but I mean you had not at that time considered the figures you would place on it?

A. Not fully, no sir.

Q. How long have you taken altogether to make up your figures on this property?

A. I have been actively engaged on it for about three weeks.

Q. In making up the figures or in examining the property?

A. No, in examining the property and preparing the necessary documents and posting myself with regard to the property, familiarizing myself with it.

Q. Isn't that a rather short time to make a thorough appraisal of so many pieces of property of such large extent?

A. Not unusually short.

Q. Wouldn't it have been preferable to get a longer time if possible?

A. I would not have been obliged to work so hard. It would have been preferable for me in that respect.

Q. Will you turn to page 1 of Exhibit 48, and consider Block 1643 at the corner of 116th Street and Lexington Avenue?

A. Yes, sir.

Q. When you took your corner lot there, how did you run it?

A. I faced it on 116th Street.

Q. So that it was only 25 feet deep on the avenue?

A. Oh, no. It was 100 feet deep on the avenue.

Q. The corner lot?

A. The corner lot would be 25 feet on 116th Street and 100 feet deep on the avenue.

Q. Is that the usual method of plotting?

A. I considered that would be the better method in this instance, for 116th Street is a much wider street than Lexington Avenue.

Q. Is it as much of a business street as Lexington Avenue, or are neither business streets?

A. Well, neither are as much business streets as Third Avenue, but they are both growing into business.

Q. Take the next block, Block 1642, at the northwest cor-
4301 ner of 114th Street and Third Avenue?

A. Yes, sir.

Q. Do you mean to say that the fact that you have a frontage on both Third Avenue and on Lexington Avenue, an L-shaped piece of the character you see here, does not make an additional value to the property?

A. If there is any additional value I took it into consideration when I made my appraisal of it. That is not the natural arrangement of the land.

Q. You do it in many cases because there is an additional value, but you do not think there is in this case?

A. I do not think there is.

Q. Don't you think those two lots, 50 feet wide facing on the street, are of additional value because they are of a plot which extends out and faces on Third Avenue?

A. No, I do not, not for the final improvement of the property.

Q. Isn't a piece of property facing on a street and *and* an avenue in that way, L-shaped, usually more valuable on that account, and having two entrances?

A. It depends upon the conditions affecting the property—the location, character of business and so forth.

Q. Isn't it generally true?

A. Not always.

Q. Isn't it generally?

A. People usually feel so about a lot.

Q. Now, take the property at Irving Place and 15th Street, Block 870. What did you give for the value of the street lots there?

A. $22,500 for 25 by 100 feet.

Q. But some of the streets you put down lower than that, didn't you?

A. I don't understand your question.

Q. Some of the lots. The next lot is $20,700, you say?

A. No. I think you have that incorrect. There are two lots here,

25 by 100, at $22,500. Then I took 5½ feet by 100 at that rate and made it $4,950.

4302 Q. Well, on page 4195, if I read correctly, you say for the next lot $20,700?

A. No, I think——

Q. "For the first lot $20,700, for the next lot $20,700."

A. Well, that was after estimating that they were short lots. I took the basis of a lot as $22,500, 25 by 100 feet, and as these lots were only 84 feet in depth I allowed 92 per cent. of that amount for the 84 feet.

Q. How about lots on Irving Place?

A. There I made the lots full depth.

Q. What value would you place on a single lot?

A. I placed a value of $60,000 on the corner.

Q. And an interior lot?

A. $42,500 next to the corner and $40,000 for the one next to that, and there were nine feet over that I allowed for at the same rate.

Q. Hasn't the city acquired some lots on East 15th Street very recently?

A. I understand that the city has been acquiring property in that neighborhood.

Q. Hasn't it paid very much higher rates for that property in June, 1906?

A. The city often does that, sir.

Q. Well then as a matter of fact have they not in this case?

A. I think they have paid higher, but there were buildings and it is difficult to ascertain what they did pay.

Q. The old buildings, at say from 125 to 131 East 15th Street, would not add much to the value, would they, in the purchase of that property?

A. They had a rental value in there.

Q. But not for the uses of the city?

A. No, not for the uses of the city, but the city had to pay for them, because they were taking them from citizens.

Q. Don't you know that some of those lots, 23 by 100, with old buildings, worth perhaps not over $3,000 to $4,000, did sell at from $30,000 to $48,000?

A. No, I don't know it.

4303 Q. Have you the records of what the city paid for 129 and 131 East 15th Street?

A. Yes, sir. I have the record here of all those transactions.

Q. Well, what did the City pay for 131 East 15th Street, 23 by 100?

A. It would take me some time to find that. My records show that they bought on 16th Street.

Q. Yes, and they bought on 16th Street and they paid there for 126 East 16th Street, $40,000, didn't they, including the old building?

A. I have a record of a sale at 138, 140, 146, 150.

Q. You haven't the record of the sale at 126 East 16th Street to the City, of 128 East 16th Street?

A. I have a record of No. 131.

Q. 131 East 15th Street, isn't it?

A. 131 East 16th Street.

Q. What is the dimension of that lot?

A. 23 feet front by 92 feet in depth, and it had on it a five-story brick building, sold to the City of New York.

Q. For how much?

A. The record says for $48,000.

Q. Well, property in 16th Street would not be as valuable as it is in 15th Street, is it, at the location of the Consolidated Gas Company's building?

A. No, I think not.

Q. And you have no idea that the value of that building would represent the difference between the $48,000 and the $20,700 as you fixed for the value of the Consolidated lot, have you?

A. I had not estimated the building was worth as little as you say.

Q. It would not be worth so much that it would make up the whole difference between $20,700 and $48,000 would it, as it would ordinarily sell?

A. The building was assessed for over $10,000.

Mr. MATHEWSON: Will the stenographer repeat the question?

4304 The STENOGRAPHER (reading): "It would not be worth so much that it would make up the whole difference between $20,700 and $48,000, would it, as it would ordinarily sell?"

A. That I don't know. I have made no estimate of it and I pay very little attention to values made through condemnation proceedings.

Q. Well, these were old buildings, were they not?

A. They were fairly good buildings.

Q. But they were pretty old?

A. Yes, sir. All those buildings in there are old. It is an old section of the city, but it was a condemnation proceeding.

Q. Well, by condemnation proceedings you refer to the proceedings where the parties are heard and where it is supposed to be impartial and the commission makes an award or finding?

A. But the opinion there is another man's opinion, not mine. I have been asked to give my opinion. They have given their opinion based on testimony, and other things.

Q. Did you allow anything for plottage in this Irving Place property, Block 870?

A. I included that in my estimate of the value of the lots.

Q. How much did you allow for plottage?

A. Plottage runs all the way from 5 to 10 per cent., 10 per cent. being the extreme allowance, I think.

Q. In this case how much did you allow?

A. I don't know how much if you itemize it in that way. No one would consider this plot in separate lots except for the purpose of ascertaining the value. No one would sell it in separate lots.

Q. Well, you must not say that because if we did sell it in separate lots that would reflect upon you?

A. It would ruin the property to sell it in separate lots.

Q. It would be worth more as a whole than in individual
4305 lots?

A. It is worth more as a whole. The new building law makes it so.

Q. Now, Block 239, at the northeast corner of Elizabeth and Hester Streets, you valued the street lots there, the Elizabeth Streets lots——

A. No, I faced the lots on Hester Street, four of them.

Q. Yes, and then you face lots on Elizabeth Street?

A. Yes, two of them.

Q. And valued them at $17,500 each?

A. The two on Elizabeth Street in the rear of the Hester Street front.

Q. And what do you value the lowest priced lots on Hester Street?

A. $22,500.

Q. Has not property in that vicinity sold for as high as $26,500 a lot within the last year or two, with buildings which were practically worthless?

A. Yes, it may have been so in that vicinity, but that is not the corner of Hester and Elizabeth.

Q. Well, how far is 174 Hester Street from this?

A. I don't remember the distance. I went and looked at the property. Not very far away. This is No. 80 Elizabeth Street——

Q. Hester Street?

A. 157-9 Hester Street.

Q. Did not 174 Hester Street, a lot 25 by 100 feet, sell for $26,500?

A. I think so, sir, but I know nothing of the circumstances under which it was sold.

Q. Let us take the next block, 985, between 17th and 18th Streets, east of Avenue B. Did you allow 5 per cent. for plottage, do I understand——

A. Well, I never seperated the plottage from the value I placed upon the lots. I consider the lots worth so much in a combination such as this.

Q. You include your plottage in the valuation of individual lots?

A. I do. I put a higher value on them for that purpose. My judgment is that they would sell for those figures if sold in proper parcels.

Q. Well, just exactly what did you mean when you said,
4306 "I valued the lots on East 17th Street at $7,500 each, the lots on 18th Street at $7,000, adding 5 per cent. for plottage?"

A. I thought the lots on 17th Street were a little better than those on 18th Street when I examined them.

Q. Why?

A. I thought the surroundings were better.

Q. Outside of the existence of the gas works?

A. Yes; better buildings on 17th Street than on 18th Street, that is, opposite these lots.

Q. Can you point out any sale of these lots in that immediate vicinity, any vacant lot, that has sold as low as $7,000 within the last year or two?

A. No, I do not think I can find any. No. 616 was sold at about that figure.

Q. No, 616 what?

A. No. 616 East 17th Street.

Q. When?

A. It was sold on the 1st of February, 1904, the Record shows.

Q. Well, the other witnesses have testified that values have very substantially increased within the last two or three years. Don't you agree with them?

A. There is a stronger market, very much stronger, but that is in certain localities.

Q. Well, generally speaking, rents have advanced, have they not, and the value of real estate in New York have advanced in the last two or three years?

A. Very much so in some neighborhoods.

Q. Is it not so in that particular neighborhood?

A. There is a stronger market in that neighborhood; that is, you can sell property more readily than you could some years ago.

Q. This lot to which you have referred as sold in 1904——

A. That had a six-story brick building on it.

Q. And it was a single lot and not part of a plot, was it not?

A. Yes, but it was a six-story brick tenement house with a store.

Q. Are you familiar with the sales from 518 to 524 East
4307 16th Street, made, I think, in April, 1906?

A. No, I have not those; I have from 528 to 536, made in March, 1904.

Q. Well, I am getting nearer the present date.

A. Some of those sales I could not find.

Q. I have a record of the sale here of those lots at $50,000, three lots at $50,000, with old buildings which are said to have been worth perhaps $12,000; that would make $12,750 for the land if that be true. Have you not some record from which you can say whether that is correct?

A. In a great many sales the considerations are nominal and it is very difficult to determine what they bring, as you can only approximate that by determining the age of the buildings on the property and finding out what percentage somebody has loaned on the property.

Q. Yes, but I am assuming that the sales were made at the price I have suggested. If that be true, that would be a substantially higher valuation than you make, would it not?

A. Yes, but you cannot assume those things unless you know them to be so.

Q. I am assuming that it be so, that is a higher valuation than you have made?

A. Well, a practical real estate man would not make the assumption.

Q. Well, I am making the assumption.

A. Well, you have a right to.

Q. I say if it be true that sales were made at that price in that section, it would be a substantially higher figure than your present estimate, would it not?

A. It would be higher, but one would have to inquire into the circumstances of the sale; there may have been a fictitious consideration in the deed, as often is the case.

Q. I am assuming that it did sell for that price and that that was not the consideration named, because the other witnesses, if you have read their testimony, testified, did they not, that they took into consideration sales which they knew of, and sales which they
4308 actually found had disregarded the nominal consideration?

A. I have looked up all the sales that took place in the neighborhood in the last three years.

Q. Then you do not find these sales that took place——

A. Give me the number again, please.

Q. 518 to 524 or 522.

A. I find 521 East 16th Street. 514 to 516?

Q. Nos. 518, 520, 522 and 524?

A. I find 526.

Q. Well you are just outside 518 to 524 East 16th Street, which sold in the spring of 1906.

A. 514 to 516, I have that; 518 to 524 I have.

Q. Did not that property sell for $50,000?

A. The *Real Estate Record* does not show it did. It says "nominal consideration."

Q. So that you have not the record——

A. It was sold subject to a mortgage of $39,000.

Q. The mortgage was $39,000?

A. It was, but it was 75 feet front and there were four 4-story brick tenements on it.

Q. Were those tenements not old 4-story brick buildings?

A. I did not examine them, sir. It was a nominal consideration.

Q. Let us take the next block, 989, lot 1, facing on Avenue C, which you have appraised at $139,500. Are you aware that that plot is assessed for taxation at $155,000?

A. Yes, sir.

Q. Or much more than you have estimated it?

A. Yes, sir, I have it.

Q. So, too, with Block 989, Lot 26, which is on the westerly side of Avenue D, between 15th and 16th Streets, it seems to be valued by you at $96,480, and it is assessed for taxation at $96,000?

A. Yes, sir. Merely a difference of opinion between two men who valued the property.

Q. Why did you face all the lots on the street in Block 989, Lot 26, instead of part on the Avenue?

A. Because the streets are very much better than Avenue
4309 D. Avenue D is an insignificant street there.

Q. Are the streets wider than Avenue D?

A. No, they are about the same width. They are the same width,

but the condition of Avenue D—the streets are paved; 16th Street is paved with asphalt and 15th Street with granite; and Avenue D is old fashioned cobblestones, not even Belgian Block, but old fashioned stones.

Q. Is Avenue D a business street above and below this property?

A. There is more business above and below than on this block.

Q. Naturally, but there is more business on Avenue D than on the side streets, is there not?

A. Not on this portion; there is very little on Avenue D between these points.

Q. I understand, but these are the works of the Consolidated Gas Company?

A. Yes.

Q. But above the works of the gas company and below them Avenue D is better, is it not?

A. It is.

Q. And it is a business street?

A. More so than it is here.

Q. And it is a business street, more business than the side streets?

A. Yes, but here there is more business done on 15th Street and 16th Street than there is on Avenue D, and in my opinion values are stronger on those streets than on this portion of Avenue D.

Q. If these plots were to be sold and to be used for business purposes, don't you think the business houses would naturally front on Avenue D?

A. What kind of business houses?

Q. Oh, such business places as you find below 14th Street and above 16th Street on Avenue D?

A. I think not under the present surroundings; I paid especial attention to look at that point.

Q. What do*d* you mean by present surroundings, the presence of the gas company there?

A. No, the present way in which 15th and 16th Streets

4310 are built up.

Q. How did you happen to divide Block 991, Lot 26, into 4 plots instead of into lots in your valuation?

A. Because I thought that was the more reasonable way of subdividing it; it would spoil that block to sell a lot out of it, it would spoil it for business purposes.

Q. Would it not spoil any of these other blocks to sell lots out of them, which you treated in a different manner?

A. No, in some cases those large blocks could be sold in parcels. It is customary now with buyers to buy more than one lot at a time for permanent improvement.

Q. Take Block 991, Lot 1, the plot on 14th Street. Did you observe that that was assessed at $180,000?

A. I observed that, yes, sir.

Q. As a matter of fact, while you found some little variation between the measurements of this plot as appearing on Exhibit 48 and the tax maps, your observation led you to think that the dimensions on Exhibit 48 were correct rather than the tax map, did you not?

A. Yes, I thought so, from making a plottage of the block.

Q. Now, I observed in Block 988, which is the entire block between Avenues C and D and 14th and 15th Streets, you faced your lots on Avenue C to some extent?

A. Yes.

Q. But in Block 982, immediately west of Avenue D from that, I think you faced them all on the street, did you not, on 14th Street, did you not?

A. Yes, I think I did there.

Q. Well, what is the difference? They are directly across the street from each other?

A. It is a better street there probably, there must have been something I saw in going upon the property. What was the other number?

4311 Q. 982, directly west across Avenue C.

A. Yes, but 982--one has a frontage on 14th Street and the other block has not.

Mr. Page: No, wait until you examine them.

Q. Both has a frontage on 14th Street and both on 15th Street?

A. Yes, that is true, but I faced all the lots on 14th Street, because 14th Street is a wider street than Avenue C and much more of a thoroughfare, but when you come around to this other block, I faced them the same.

Mr. Page: Well, that is his point, that you made a difference there in facing some on Avenue C and some on 14th Street.

Q. I understand you faced them relatively in the same manner?

A. Relatively in the same manner. I thought you were comparing between 14th and 15th Street-.

Q. No, 14th Street is more of a thoroughfare and lots on 14th Street are more valuable than on 15th Street and the other streets, are they not?

A. Yes, sir.

Q. Now, in considering Block 982, if I am correct, you figured the street lots at $9,500 each, as facing on 14th Street?

A. $9,500 each.

Q. And you valued the lots in Block 988 as facing on 14th Street at only $8,000.

A. That is true.

Q. Although they are only separated by Avenue C?

A. And at some distance.

Q. Do you consider there is any such difference in value between lots on 14th Street?

A. I do, there, yes, sir.

Q. Is it not true that the nearer you get to the river and bulkheads in a place like that, the more valuable your lots are?

A. Not always, sir.

4312 Q. Well, is it not generally true?

A. I do not think so in this case.

Q. Is it not generally true, not in this case, but as a general proposition?

A. I do not think I can answer as to its being generally the case; it is sometimes but not always the case.

Q. Can you point out any single lots that have sold on 14th Street within that vicinity within the last year at as low a figure as $8,000?

A. I find that No. 606 East 14th Street was a five-story tenement and store, was sold for $15,825.

Q. Yes, do you know how good a tenement and store that was, how much the building added to the value of the lots?

A. A five-story house and four-story brick on the rear.

Q. Do you know how old it was?

The MASTER: When was that sold?

The WITNESS: In April, 1904.

Q. Well, I asked you within the last year or so?

A. Well, the same property was sold in 1906 subject to a mortgage of $11,900.

Q. Do you know what the price received was?

A. No, the consideration was nominal.

Q. Do you know how old that building was?

A. No, I think it was an old building, but in fairly good condition.

Q. I observe that in the testimony of Messrs. Thompson and McHale that in the sale of property or estimating the value of property they allow only $4,000 or such a matter, if my recollection is correct, for the value of these old buildings or old tenements per lot of 25 feet, where the buildings are old; is not that your reading of their testimony, or have you not read it?

A. I have read their testimony. They may have made that allowance for some buildings in some particular location, but
4313 it is not a general rule.

Q. You do not know what the value of that old building was on the lot which was sold, to which you have referred, do you?

A. No, I do not, sir.

Q. Referring to all the property at East 14th Street and 15th Street, is it not true that considerable value is added to that property by the fact that it is all in the hands of a single owner?

A. I took that into consideration when I valued it.

Q. Did you take into consideration, that the bulkhead rights opposite were owned by the Consolidated Gas Company also, as affecting the value of the upland?

A. On Tompkins Street? I did not take into consideration that the bulkhead rights there were owned by the company.

Q. What addition would you make for plottage in the case of Block 988, which is an entire block, what percentage should be allowed for plottage?

A. From 5 to 7 per cent.

Q. Well, taking all that property together would not 10 per cent. be a moderate estimate for plottage value?

A. No. 10 per cent. is a pretty large estimate on the value of land.

Q. You do not think it would be as much as that?

A. I do not. Plottage is a very indefinite item.

Q. But it is an item that is recognized by real estate men?

A. It is an item that is recognized by real estate men, but everybody differs on it. If it did not, there would be no sales.

Q. Will you now turn to page 3 of Exhibit 48 and direct your attention to Block 688 as it now exists, after the improvements, which you valued at $300,350. You valued the interior lots here, if I am correct, in reading the testimony, as low as $9,500 each?

A. On the side streets.

Q. Can you point out the sale of any lot in that vicinity as low as $9,500 for the lot within the last year?

4314 A. No. 415 West 16th Street, with a five-story brick tenement on it sold for—no, it sold for a nominal consideration; it sold subject to a mortgage of $12,000. I thought I had the natural consideration there. No, there have not been any sales on that street in the last year except where the consideration was nominal.

Q. Is it not true that property in that neighborhood has very largely increased in value in the last two or three years?

A. It has increased.

Q. Very largely increased in the last two or three years?

A. There is a better market, particularly on the avenue; it has increased on the avenue and on the marginal street, but not so much on the side street.

Q. Well, are you not familiar with the sale of 418 to 420 West 16th Street in 1902?

A. I have not gone back as far as that.

Q. You have not your records as far as that?

A. I have records, but I have not the records here.

Q. Let us take a more recent one, *445* (No. 445 is a stenographer's error. The question asked was in relation to 455.) West 16th Street, between Ninth and Tenth Avenues, a lot 25 by 92 feet deep with no buildings except a two-story frame building, said to be of no value; did not that sell in 1906 for $13,250?

A. No, I looked for that sale and could not find it. I think there is a mistake in the designation of the street, because I looked for it and my assistants looked for it.

Q. Well, it may — that the individual from whom I received the information may have had information which is not spread upon the record as to the actual consideration?

A. No, I think it was copied wrong, because in some cases we found buildings with that number on a different street. It is probably a little mistake in copying it.

Q. You do not find anything that corresponds to this?

A. No, I do not in this case, but I did in the other. Those things are so apt to occur that——

4315 Q. Referring to your valuation of $300,350, would it surprise you to know that the Company within a very short time, had received an inquiry as to whether they would sell that land for $500,000, with the statement that it was believed that it could be obtained?

A. I am never surprised at any statement in regard to real estate.

Q. You would not be surprised, then, if they received an offer of $500,000?

A. I would like to know who made the effer and the conditions.

Q. Oh, yes, that is all right——

A. I would not express any surprise——

Q. If you found buyers ready to offer $500,000 for that plot, would not that influence your judgment as to the accuracy of your valuations in this immediate section?

A. Why, I think it would some, yes, sir.

Mr. PAGE: I do not suppose that Mr. Mathewson assumes that the statement that a broker has said that he thought he could get some one to pay that is an offer of that amount.

Mr. MATHEWSON: Not at all. The suggestion came from the proposed buyer.

Q. Will you take Block 689, Mr. Wells, being between 17th and 18th Streets. There also you make the interior lots worth $9,500?

A. Yes, sir.

Q. Does not the value of the lots increase as you proceed towards 22d and 23d Streets, where the big ferries are located?

A. Yes, as you get beyond 18th Street, I should think they might.

Q. But I see, taking Block 690, which is above 18th Street, that you still continue to value the street lots interior lots at only $9,500?

A. Well, but that was a plot which was very much mutilated by pieces being taken out of it.

Q. Have you made an additional allowance for plottage
4316 by reason of the entire ownership of these three blocks, 688, 689, and 690?

A. One reason was that many of these lots are further away from Tenth Avenue; it is a much longer block.

Q. But taking the blocks the same distance from Tenth Avenue, did you not make $9,500 the valuation in each case?

A. The average valuation.

Q. $9,500?

A. Yes.

Q. But you made it for each individual block, $9,500, did you not, in giving your valuation?

A. I did, that is about the value there.

Q. But they do become more valuable above 18th Street?

A. I think they are becoming more valuable as you get above 18th Street, as you approach the ferries, but not very much.

Q. I see in Block 691, which is between 19th and 20th Streets, you still keep the value of the interior lots in your estimate at $9,500?

A. Yes, but that was on account of the poor condition of the street, I think; some of those streets are in a terrible condition.

Q. But are not the lots in Block 691 very close to the marginal street?

A. Yes, they are.

Q. And that marginal street——

A. But my recollection of that is that it was a very disagreeable neighborhood there at the present time, exceedingly disagreeable neighborhood. You could not cross the street on account of the water in the street; I think that is the street.

Q. What do you mean by water in the street?

A. Well, they are improving the marginal street, and the water had come down one of these streets and formed quite a puddle.

Q. You mean one of the side streets?

A. I mean one of the side streets.

Q. But you would not take that as a controlling feature, a temporary puddle like that?

4317 A. It is temporary, but the general appearance of the neighborhood; the neighborhood in some of those streets is very bad.

Q. But is it any worse in 20th Street than it is in 19th Street?

A. Yes, I think so.

Q. On the marginal street?

A. Yes, that is my recollection; the marginal street is not improved all the way along there.

Q. But it is in process of being improved?

A. Yes, there is some work being done, but the City is doing it very slowly in some parts.

Q. Has there not been a very great increase in value in the last two or three years from 19th to 23d Streets?

A. Not so much in the side streets as there has been upon the marginal street and Tenth Avenue.

Q. Yes, but between 10th Avenue and the marginal street, it means an increase in value, provided values increase in both Tenth Avenue and the marginal street, of course?

A. But the increase has been mostly east of Tenth Avenue.

Q. Is it not true that if you have a large increase in value in two avenues, that the side streets running through from those avenues also increase in value?

A. That is generally the case, yes, sir.

Q. Block 716, which is 75 feet wide only, you estimate at $12,000 per lot?

A. Yes, that is between Ninth and Tenth Avenues.

Q. Is the reason for that difference the fact that it is located between Ninth and Tenth Avenues instead of between Tenth Avenue and the marginal street?

A. Not at all. That land is upland, it is not filled-in land. Much of the land I have been talking of is filled-in land. This is above high water mark.

Q. Is it not a fact that the land in the blocks west of Tenth Avenue abut on a street which has a water front, an element in determining value?

4318 A. Yes, sir; a business street; the marginal street will be a great business street.

Q. Is it not true, too, that the greater part of the water front property of New York, which faces on marginal streets is located on filled-in-land?

A. A great deal of it, and it must necessarily be so, but it affects the value on side streets.

Q. What valuation did you place on Block 715, which is directly across the street from Block 716, per lot?

A. I think about the same value; the same value.
Q. Just $12,000 a lot?
A. $12,000 a lot.
Q. Does not the fact that there is quite a large parcel in Block 715 add to its value on account of plottage?
A. Well, I think that $12,000 is the value of a lot, when you consider plottage added—plottage is such an indefinite term——
Q. Have you a record of any vacant lot in the immediate vicinity between those two avenues which sold within the last year for $12,000?
A. No, I do not know of any vacant lot in that plot that sold at that price. I don't know that there are any vacant lots to be sold, excepting these, that is, that could be sold without buildings upon them. The sales that have taken place there, with the exception of one, 110 West 18th Street, which sold for $12,100 in May, 1906, and that had a three-story and basement tenement house on it, were for nominal consideration, as I find them; I have one sale, 410 West 18th Street, which sold for $12,100.
Q. When was that?
A. March 30, 1906, 129 feet 6 inches west of Ninth Avenue.
Q. To whom was that sold? Have you the record?
A. It was sold to the Prudential Real Estate Company.
Q. It was sold in foreclosure?
A. It was sold in foreclosure, yes, sir.
Q. Have you any record of any sale—private sale—by ordi-
4319 nary negotiation?
A. I have not except at nominal considerations.

By the MASTER:

Q. Was that a full-sized lot?
A. No.

By Mr. MATHEWSON:

Q. What was the size?
A. It was 20 feet 6 inches by 92 feet.
Q. Your estimate of $12,000 is for a 25-foot lot?
A. Yes.
Q. With a depth of 92 feet?
A. Yes.
Q. I see in this Block 951, on the south side of East 21st Street, west of Avenue A, Block 952, between 20th and 21st Street, west of Avenue A, and Block 953, between 21st and 22d Streets, west of Avenue A, you appraised interior lots at $7,500?
A. So it seems.
Q. Can you point out any sale of lots within the last year in that vicinity at $7,500 equally well located?
A. Perhaps not within the last year.
Q. Well, have you not a sale which took place in 1904, 436 and 438 East 19th Street——
A. I have 426.
Q. 50 by 92 feet, vacant lot?

A. No, I have not that. I have a sale of 426 which took place in 1905.

Q. You have not the record of 436-438 East 19th Street between First Avenue and Avenue A?

A. No, 508-510 I have.

Q. Sold in March, 1904?

A. Well, sold in June, 1906, that is the only sale I have. That is not an actual consideration.

Q. Well, have you not your records for 1904 here?

A. These records were prepared from the Real Estate Rec-
4320 ord, the records for 1904, 1905, 1906, were all examined, and those that have actual considerations were culled out of the Record.

Q. Have you not made any examination except from the Real Estate Record?

A. I cannot interview the buyers.

Q. Don't you in any case where the Real Estate Record shows a nominal consideration, ascertain frequently what the actual consideration was?

A. So far as we are able in our office; we have not time to run around and interview the buyers; there is no other way of doing it. We approximate the value, considering the mortgage upon the property very often.

Q. Well, the mortgages upon the property are placed at various per cents. of the true value, in accordance with the prudence of the lender and the rate of interest he gets, are they not?

A. That is true. You can find out the limit both ways of loaning and come to a conclusion as to what amount was the percentage that was loaned upon the property; that is the only way.

Q. I find I have a memorandum of the sale of 436 and 438 East 19th Street, between First Avenue and Avenue A, 50 by 92 feet, vacant, at $16,100, or $8,050 per lot in March, 1904. Won't you see if you can find that?

A. I have not it.

Q. If that sale be genuine at that price, that would represent a larger price per lot than you have assumed for the interior lots in any one of these lots, would it not?

A. Was it vacant?

Q. Vacant.

A. Was it an exchange?

Q. A sale, as I have it.

A. I know, but you cannot judge from that.

Q. I say, assuming it to be so, that would be a higher valuation than you make now?

A. It would be mathematically a higher valuation.

Q. And you have said that property has increased in value within the last two or three years?

4321 A. I did not say it had increased here in value. I said there had been a general increase in the value of real estate.

Q. Has there not been a general increase in value——

A. Not in all real estate.

Q. Let me finish my question. Has there not been a general increase in value in this particular section, East 23d Street and north and south for several blocks within the last three years?

A. You were questioning me on 19th Street.

Q. Yes, I say north and south from 23d Street for several blocks?

A. Not a very large increase.

Q. Didn't you allow an additional allowance for plottage here by reason of the fact that the company owns the entire block in one case and virtually the entire Block 953?

A. I am not talking about different blocks.

Q. I am going to name it.

A. You are through with 951?

Q. My inquiry was as to all three, because you claimed $7,500 for an interior lot in the case of all three blocks, 951, 952 and 953, and I was saving time in taking them together.

A. I did not comprehend your question.

Q. I ask you whether you have made an allowance for plottage by reason of the fact that Block 951 and Block 952, which is nearly an entire block, and Block 953, which is the entire block, were all in the same ownership?

A. I do not think plottage would apply in the same way.

Q. Why not?

A. Because after you own so much property the plottage begins to cease; the ownership of so much creates a dull neighborhood.

Q. You would not call it dull around the gas plant, would you?

A. Not in the smell, it is not; it is a dull neighborhood; while all that property is occupied for gas purposes, it is a dull neighborhood.

4322 Q. Do you mean to say that the ownership of all this property on East 20th Street and 21st and 22d Streets in a single ownership does not add to the value of that property in the hands of the owner?

A. No, I do not think the plottage applies beyond the block.

Q. You read what other witnesses said, did you not, in which they——

A. I know, but I am not praising the other witnesses.

Q. I know, but I ask you if you did not read what they said?

A. I read it.

Q. Well then, do you disagree with them on that subject?

A. I think I disagree with them on that.

Q. Did you observe that Block 951, which you valued at $52,500, was assessed at $50,000, or substantially what you appraised it?

A. Yes.

Q. And did you observe that Block 952, which you valued at $333,800, was actually assessed at $340,000, or something more than your appraisal?

A. I did.

Q. Did you observe that Block 953, which you appraised at $435,700, was appraised for taxation at $500,000?

A. Yes, sir, I observed it.

Q. And in spite of the fact that you have been connected with the Tax Department, that has not any influence on your judgment?

A. I did not make assessed values in the Department. Deputies are employed to do that, sir, and it shows how they differ. It is a difference of opinion.

Q. So, too, taking Blocks 979, 978, 987, which are in a single ownership, you think that the single ownership does not add to the value of three blocks aggregated on the basis of plottage, do you?

A. Not beyond the block, not beyond the individual and particular block.

Q. And did you observe that Block 978, which you valued at $368,265, was assessed at $369,000, or a little more than your value?

A. Yes, it is assessed about $750 more than my valuation.

4323 Q. Did you observe that Block 987, which you valued at $88,000, was assessed at $86,000?

A. Yes, but in that case the city assessed less land than I did.

Q. The tax map of the city shows lightly less in that case, does it?

A. Yes.

Q. How much?

A. Well, it shows that there is a strip along that lot 23 feet 9⅜ inches at 20th Street and 7 feet 6½ inches at 21st Street. It was assessed by the City of New York, and I do not make the city's assessed value what you do. I find it to be $79,700 for the part that the city assessed as gas company property.

Q. What is the $86,000, the assessment of the whole block?

A. I presume so.

Q. Well, we think we own the whole block?

A. I gave you the benefit of it.

Q. You did not find anybody else in possession between ourselves and the street, did you, no business going on?

A. I don't know whether your fence along there—there is a large board fence along there; I don't know whether it is on the line or not. There is in that neighborhood a strip that has not been asphalted. The rest of the marginal street is covered with asphalt, but there is a strip there between the fence that is not improved.

By Mr. PAGE:

Q. And that is the portion that is assessed to the City, is it?

A. That is the portion that the assessment really says is assessed to the City of New York, but I have included that in my valuation of the whole plot.

By Mr. MATHEWSON:

Q. Of Block 987?

A. Block 987. I plotted that with that in.

Q. Do you think that the proper way to sell Block 987

4324 is to divide it into only two parcels instead of selling it off into blocks?

A. I do, most decidedly; I am positive on that.

Q. Will you refer to page 5 of the Exhibit 48 and take Block 1089?

A. Yes, sir.

Q. Between 41st and 42d Streets?

A. Yes.

Q. Running west from Eleventh Avenue, you took the block as extending only to the line of Twelfth Avenue, did you?

A. In my estimate I did.

Q. Did you find the Company in possession of the land clear through to the bulkhead line?

A. I don't know. I passed through the Albany Day Steamboat Line.

Q. Didn't you observe the Company was in possession of all that property with merely a right of way, which has been described in evidence, to the steamboat line?

A. I found a tramway for coal extending over what would be Twelfth Avenue.

Q. Used by the Company apparently?

A. I presume so. It was not in operation when I was there.

Q. Was the property fenced in at all?

A. The property was fenced in. There was a passageway.

Q. Including the street, except the passageway?

A. I don't know as to the location of the fences, whether they are on the line of the avenue or not.

Q. Well, it was apparently fenced in, as near as you could judge?

A. But approximately the easterly fence was on the line of the avenue.

Q. You appraised the pier there, and the water rights?

A. No, sir, I went in the ferry house and examined it.

Q. You give there only $11,500 as a valuation for the interior lots on 42d Street?

A. Yes, sir.

Q. Isn't property on 42d Street increasing in value?

A. It is going to increase in value there. It has not increased much yet, but it is going to.

Q. There is a ferry located there, isn't there?

A. Yes, sir.

4325 Q. Have you a record of any sale of a lot on 42d Street or thereabout within the last year at as low a price as $11,500?

A. I have a record of a plot 19 feet 7 inches by in depth half the block, with a four-story stone front dwelling on, which sold in 1904 for $10,700.

Q. Where was that?

A. No. 526.

Q. You haven't any nearer record than that?

A. I have a record in 1905 of No. 417, having been sold in January, 1905. The lot was 20 by 100 with a four-story brick tenement and store, sold for $16,500.

Q. Auction sales?

A. No, sir; executor's sales.

Q. Not at auction?

A. Apparently not, sir.

Q. Would you be sure they were not executors' sales made at auction?

A. If they were it would still further confirm my opinion that it was a fair price, because executors' sales at auction bring better prices than executor's sales at private sales.

Q. Has not property at 14th Street largely increased in value in the last three years?

A. No, but there is a better market for it and it is going to increase largely with the improvements that are going on there.

Q. Did you reckon the corner of Twelfth Avenue as a corner lot or as an interior lot in your estimate?

A. I reckoned it as an interior lot because of the ungraded condition and the unsettled condition of things right there. I could not arrive at it in any other way.

Q. Even if it be ungraded and unsettled is not the corner lot with the prospects that go with it on such a broad avenue as Twelfth Avenue, more valuable than an interior lot?

A. I am unable to appraise prospects.

Q. You do it every day, don't you?

A. No, sir.

Q. Is not the corner lot on an avenue such as Twelfth Avenue is laid out apt to be more valuable than an interior lot?

A. Yes, usually; but I have taken an average of the lots
4326 there of so much. I do not say that each lot is worth that.

Q. Do you mean to say that interior lots, if you were to define these lots, are actually worth less than $11,500 and the corner worth more?

A. On account of the conditions there I do not believe that any of that property would bring any more money than I have placed the valuation at. There is a bad neighborhood back of it.

Q. Don't you think a corner lot, assuming as you did it is not a corner yet, and having it understood, as you did, that Twelfth Avenue was to be opened on a city street, and that it did not belong to the gas company, would bring more than an interior lot?

A. Probably it would. But there is no physical corner there yet.

Q. Well, we must assume the one thing or the other, that the street belongs to the company or that it does not, and if it belongs to the city you have a corner lot?

A. I would naturally face those lots on 42d Street and not on Twelfth Avenue and I took the entire plottage on 42d Street and appraised it at so much a lot.

Q. But if Twelfth Avenue were to be cut through would not the lots there naturally be faced on Twelfth Avenue in that case?

A. No, sir; they would still be faced on 42d Street.

Q. How about being faced on 41st Street. Wouldn't that half of the block face on Twelfth Avenue if you were to plot it after Twelfth Avenue were cut through?

A. If any one was selling that property they would not sell less than 100 feet square on 41st Street. Then a man could face his lot either way as the development justified.

Q. Would not the development as a rule and in your judgment justify facing the lots on Twelfth Avenue, for the half of the
4327 block from 41st Street to the middle line?

A. Not in the immediate future.

Q. Not even if Twelfth Avenue were cut through?

A. No, because there have got to be a great many other changes in that neighborhood to make Twelfth Avenue of any importance. The slaughter houses on 41st Street have a very bad effect upon all property in that neighborhood.

Q. Do you mean to say that a corner lot on 11th Avenue is now only worth $17,500, in your judgment?

A. In that neighborhood?

Q. Taking Block 1071, across 11th Avenue, you have 4 lots which you appraise at $50,000, or $12,500 per lot?

A. 1071, yes, sir; $12,500 per lot.

Q. Are lots worth more there?

A. They are.

Q. Than they are nearer the ferry?

A. On that side of the street.

Q. On the north side of the street—on that side of the street they are worth more?

A. Business side of the street there.

Q. How about their proximity to the ferry; does that add or detract from their value?

A. It does not add very much. People that go to the ferry pass by without stopping in the stores.

Q. Does it add anything?

A. It may add something. There may be some transient trade there.

Q. Wouldn't you say it added something?

A. Very little.

Q. Wouldn't you say it added something?

A. It might add something.

Q. Then won't you look at plot 1091 which is nearer the ferry, between 11th Avenue and the ferry, north side also, 150 feet, or six lots. You valued that at only $12,000 per lot although it is nearer the ferry, as against $12,000 for Block 1071, which is on the north side of the street as well. Why should that be?

A. Well, while they were nearer the ferry I did not con-
4328 sider the lots were as good lots as the others.

Q. Why not? There is just as much land in them?

A. Just as much land but a much poorer bottom to build on.

Q. Isn't it made land in each case?

A. There is not so much made land in 1071 as there is in 1090.

Q. Isn't it made land?

A. No.

Q. Are not all the lots on 1071 located in made land?

A. I think not, sir. I think they are east of the high water mark and north of the little stream that ran in there originally.

Q. Now, turn to page 6, Blocks 1092, 1093, 44th to 46th Street, between Eleventh Avenue and the North River. You did not in taking these two blocks either make any valuation for a corner lot facing on Twelfth Avenue, although you excluded Twelfth Avenue from the ownership of the complainant company, did you?

—. I did not.

Q. I see that you value interior lots in Block 1093 at $7,500?
A. Yes, sir.
Q. And also in Block 1092?
A. Yes, sir.
Q. Are lots on 44th, 45th and 46th Streets all of the same value?
A. About the same value. I judge so.
Q. Can you give me a record of a sale of any lot within the last year in this immediate vicinity at as low a figure as $7,500?
A. There was a sale of No. 499 West 44th Street; it sold for about $9,500, as far as I can figure it.
Q. Between what avenues is that?
A. It was 200 feet east of Tenth Avenue.
Q. A 25-foot lot?
A. No, a 20-foot lot by 100 feet 4 inches, and had on it a four-story brick tenement.
Q. Was that an auction sale?
A. It does not appear to be.
4329 Q. Do you know whether it was or not?
A. I do not know. I think it is a private sale.
Q. Are you not familiar with sale of lots on Eleventh Avenue, 617 to 621, between 45th and 46th Streets, vacant, in 1906, at the rate of $12,000 a lot?
A. No, I have a record of a sale in 1905, 617 to 621. There was a two-story brick dwelling on it.
Q. At what figure?
A. Nominal.
Q. Well, haven't you a record of those sales, 1906, the house being vacant or abandoned, at $37,000?
A. No, I do not appear to have that, sir.
Q. Will you turn now to page 7 of Exhibit 48 and consider Block 1457?
A. Yes, sir.
Q. Where you appraised street lots at $8,000, if I am correct. Will you see if I am?
A. I appraised the lots on 63d Street at $8,000 and those on 62d Street at $7,500.
Q. Why the difference?
A. 63d Street is a better Street.
Q. Well, you appraised the lots in Block 1455, which is between 60th and 61st Streets, at $6,500, on the street, did you not?
A. Yes; a different location of the street.

By the MASTER:

Q. I understand that in that block also that any allowance you made for plottage is included in your price per lot?
A. Yes, sir.

By Mr. MATHEWSON:

Q. How much did you allow for plottage in this case?
A. I cannot separate all the different elements in this case, Mr. Mathewson. Probably in the neighborhood of 5 per cent.

Q. Did you make any individual figures first and then add 5 per cent.?

A. No, I did not.

Q. Is the same true of Blocks 1092 and 1093 respecting
4330 which I called your attention a few moments ago?

A. Yes.

Q. You say that the property between 60th and 61st Streets is not so well located as on 62d Street or 63d Street, but hasn't it an additional element of value as property facing on Avenue A or nearer Avenue A?

A. Yes, and I have allowed for that.

Q. But even after allowing for that you gave a lower rate per lot?

A. For the back lots, further back. There were conditions there that justified that difference in the value. There is a great deal of rock on the lots on 61st Street; that is one reason; 6 or 8 feet of rock.

Q. How does rock affect the value of lots as compared with made land?

A. It is a more solid investment.

Q. Is rock more deleterious in estimating the value of the lot than the fact that a lot is made land?

A. It depends a great deal upon the man and the rock. I can give you examples both ways.

Q. Are you familiar with the sale of 417 East 61st Street, which was directly opposite the gas property, with an old two-story house of little value, 25 by 98 feet, under foreclosure, in 1906?

A. I have a record of that sale.

Q. It sold for $9,000, didn't it?

A. It sold for $9,000; a two-story frame tenement on it.

Q. Don't you recall that that two-story building was of very slight value?

A. I don't remember the building.

Q. A two-story frame tenement building would not be a very valuable building, would it?

A. Not very.

Q. Are you familiar with the sale of No. 1108 First Avenue, between 60th and 61st Streets, in 1905, a one-story shed only on the land?

A. No, sir, I am not familiar with that. I would have had it if it had an actual consideration, I think.

4331 Q. Well, have you any record of the sale of 1103 Avenue A, recently?

A. No, sir, I have not.

Q. At $23,500?

A. Oh, that had a large tenement house on it.

Q. Well, whatever it had I am referring to the sale of that number?

A. I think I have seen that sale but I have not a record of it here.

Q. Wasn't that an old tenement house?

A. No, sir; I think not.

Q. Do you know the value of the tenement house on it?

A. No, sir; I made no examination of it.

Q. Now, will you look at Blocks 1177 and 1157, on page 8 of the Exhibit 48. If I understand you correctly street lots, interior lots in Block 1177 west of West End Avenue you apprasied at only $5,000, while between West End Avenue and Amsterdam Avenue in Block 1157 you appraised them at $8,000?

A. Yes, sir.

Q. Do you mean to say there is any such difference?

A. Yes, sir.

Q. (Continuing:) As 62½ per cent. in the value of interior lots?

A. I think so, sir; because these lots abut up against the railroad track. The railroad track is against the grade of the street, but you cannot cross the track; it terminates in a *cul de sac*.

Q. But it is open at one end, across West End Avenue?

A. Oh, you can go out on West End Avenue, but it is not a continuous street, it is only 34——

Q. You think the interior lots in Block 1177 west of West End Avenue are worth only 62½ per cent. the value of lots in Block 1157?

A. Yes, because the other part is a built up neighborhood and is a continuous thoroughfore.

Q. You give the corner of Amsterdam Avenue in Block 1157 as $25,000 and the lot next to it as only $12,500, if I understand you correctly?

A. Yes, because I think very large corners would have that difference in value.

4332 Q. But don't you think that the lot next to the corner has a greater value than 50 per cent. the value of the corner?

A. 50 per cent. is usually considered a very high addition to make for the corner; usually 33⅓ to 50 per cent.

Q. But if you took the lot next to the corner at $12,500 and added even 50 per cent. to it, it would make a value of only about $18,000 for your corner instead of $25,000, wouldn't it?

A. Yes, but that is a built up neighborhood there and there are new buildings going up there and it is quite prominent; that makes the increased value.

Q. You gave the value of a corner as $25,000?

A. Yes, sir; and $14,000 for the next lot.

Q. $11,000 less for the next lot?

A. That is what I did there.

Q. Well, that isn't the proportion you carried in estimating the lot next to the corner in other cases, is it?

A. Not always; no, sir.

Q. For instance, in Block 1683, you took a corner at $15,000 and the lot next to the corner at $12,000?

A. There is no universal rule. It all depends on judgment.

Q. And in Block 1704 you took the corner at $13,500, and the next lot at $11,000?

A. There was some reason for it when I went on the ground.

Q. What is the special reason for reducing lots next to the corner on Amsterdam Avenue, which is a business street, to one-half the value of the corner lot?

A. I cannot tell what it is now, for I have not the memorandum, but there was something that induced me to do it when I visited the property.

Q. Amsterdam Avenue is a business Street?

A. Yes, a business street.

Q. A broad avenue?

A. A broad, 100-foot avenue.

Q. Doesn't it seem to you an excessive reduction without some special consideration that you have in mind unless there was a good reason for it?

4333 A. I cannot recall the reason. There was a good reason for it at the time.

Mr. PAGE: Would it be a special reduction, or an excessive valuation of the corner over the next lot?

Mr. MATHEWSON: Well, I am quite willing to have that question put.

Q. Referring to your appraisal of lots in Block 1177 at $5,000, as being west of West End Avenue, are you familiar with the sale on 66th Street, only 50 feet east of the railroad track, 40 by 100, in May last, for $13,000 or at the rate of $8,100 per lot, vacant, directly across the street from these lots you appraised for $5,000?

A. No, I haven't any such sale.

Q. Well, if lots were selling on the north side of 66th Street, west of West End Avenue, at $8,100 per lot, the lots on the southerly side would be worth more than $5,000, wouldn't they, directly across the street?

A. If they were selling for that, but I don't think that sale is the evidence of their value, for I don't know anything about the sale.

Q. Now, turn to page 9 of Exhibit 48, Block 1670, between 98th and 99th Streets, First Avenue and Second Avenue. What did you allow for plottage by reason of the ownership of the entire block by the Company?

A. I am unable to separate the plottage from the amount that I have placed upon the lots. That is, I am unable to separate it as a distinct item.

Q. Is the same true as to Block 1692 across the street?

A. Yes, sir. I don't think anybody can separate them.

Q. In Block 1670 you figure a corner at $14,000 on First Avenue, as I understood you?

A. That is true.

4334 Q. And Block 1692, just across First Avenue, you figure a corner on the same avenue at $13,000, would you not?

A. So you would on Broadway.

Q. I merely ask you whether that is the case?

A. Yes, sir.

Q. Do you consider the easterly side of First Avenue less valuable than the westerly side there?

A. I do.

Q. Isn't one side as much a business street as the other, above or below the gas works?

A. Just about, now. There is very little business there.

Q. You figured street lots on 88th and 89th Streets west of First Avenue at $7,500, and street lots——

A. One moment. I figured lots on 98th and 99th Streets, between First and Second Avenues——

Q. At $7,500, interior lots, did you not, the cheapest lots?

A. Yes; I averaged them at that.

Q. And you figured them across First Avenue, Block 1692, on the same streets, at only $5,000?

A. That is true; a very different character of lots there.

Q. Do you mean 50 per cent. should be added to the value of lots in one block to represent the actual value of similar lots there?

A. I think so there, when you consider the character of the soil and the location.

Q. Isn't the property between First and Second Avenues made land, to a considerable extent?

A. Between First and Second Avenues?

Q. Yes.

A. Yes; there was an old brook or stream ran up there.

Q. And also it is made land between First Avenue and the River where you gave your $5,000 lots?

A. That is true.

Q. The foundation is just as good in one place as in another?

A. No, hardly.

Q. Well, why not?

A. Oh, there were other elements that came in.

4335 Q. Is not the fact that the property abuts this marginal street and is next to the bulkhead line one element in favor of value in Block 1692?

A. It is.

Q. And still you put the interior lots in 1692 at $5,000 against $7,500 in 1670?

A. 1692?

Q. Yes.

A. I think not, sir.

Q. Well, let us see if you did not?

A. That is the block fronting on marginal street and I divided that in large parcels.

Q. Didn't you give any valuation for it individually, interior street lots there?

A. I think not, sir. I estimated 1692 in this way——

Q. The question was whether you did not estimate the interior lots or some of them there at $5,000?

A. I made the plot northwest corner of marginal street and 98th Street $38,000, and on that plot I divided the frontage on marginal street by the center of the block.

Q. And you had certain lots figured in this Block 1692 at $5,000, did you not?

A. I think not in my testimony, sir. I testified that there are 10,877 square feet in the northerly portion and 10,860 feet in the other.

Q. You gave a corner lot in 1692 at $13,000 and some street lots at $5,000, unless my figures are wrong?
A. Ah, on First Avenue?
Q. Yes.
A. Oh, I thought you were talking about the portion fronting on marginal street.
Q. Oh, no.
A. On First Avenue I appraised southeast corner of 99th Street at $13,000.
Q. And you had interior lots there at $5,000 each, did you not?
A. No, not on the First Avenue front.
Q. No, but street lots?
A. Yes, between the rear of those lots and the rear of the marginal street lots.
Q. And these are the ones I am comparing with $7,500 street lots in Block 1670?
A. Yes, that is true.
4336 Q. Now, are you familiar with the sale of 227 to 231 East 98th Street in 1905, 75 by 100 feet, with sheds only, at $40,000?
A. I have a record of it here, for a nominal consideration, which is subject to a mortgage of $5,000.
Q. Don't you know that the sale of the three lots 75 by 100 feet was $40,000?
A. No, I do not. The record shows it was sold subject to a mortgage of $5,000 for a nominal consideration.
Q. And you made no investigation, I suppose, further than observing the record, did you?
A. That is all, sir.
Q. Now, take page 10, Block 1683, northwest corner of First Avenue and 111th Street.
A. Yes, sir.
Q. Do you figure a corner there at $15,000?
A. That corner, yes, sir; because it was opposite to the entrance of Jefferson Park; I gave a special value for it there.
Q. Well, Block 1682, which is the block immediately below, you figure the corner at $17,500, do you not?
A. Yes, that is opposite Jefferson Park, too, but it is a better street.
Q. What is a better street?
A. 111th Street.
Q. But 111th Street, the northwest corner of 111th Street, which you figured at only $15,000 is on the same side as the southwest corner of 111th Street, both being on First Avenue?
A. Both on First Avenue, but there is that difference in my opinion in the value of the two parcels.
Q. How so, because they are on the same street at exactly the same point, are they not?
A. Yes.
Q. Both on First Avenue and 111th Street?
A. Yes, sir.

Q. And you have stated the fact that the northwest corner is opposite this park makes it more valuable than it is otherwise worth and yet you have appraised the southwest corner at $17,500 and
4337 the northwest corner at only $15,000?

A. And I presume I should have reversed them. I made them on a general diagram and may have copied them incorrectly. Those are the values of those two corners.

Q. Is that the only explanation you can now give?

A. That is the only explanation I can now give.

Q. I see you value interior lots on Block 1683 at $7,500 and interior lots on Block 1682 at $8,500, $8,500 on 110th Street; is not 111th Street as good a street as 110th Street?

A. 111th Street is a better street.

Q. Then why do you appraise interior lots on 111th Street, on Block 1683, at only $7,500, while you have interior lots on 110th Street, in Block 1682, appraised at $8,500 or a thousand dollars a lot more?

A. Well, 1863 is between 111th and 112th Streets, and 1682 is between 110th and 111th Streets.

Q. Quite so, but I am taking the lots facing on 110th Street out of Block 1704, and you appraise those at $8,500, although you appraised the lots in Block 1683 facing 111th Street which you say is a better street at only $7,500?

A. That is true. There were only two of them, though.

Q. The fact that there were only two would not make the thousand dollars difference in a lot, would it, on a better street?

A. I found I did not make it exactly that. I appraised the seven lots, giving an average of $7,500, including a portion of the land on 112th Street.

Q. Well, there are only two lots on 112th Street?

A. Yes.

Q. That is a very small part of the entire plot?

A. Yes, and I made an average of all the lots there, seven of them, at that figure.

Q. Now, don't you think that the lots on 111th Street facing this park are worth more than $500 beyond the value of lots on 110th Street?

4338 A. No, I think that is about the difference between the two.

Q. Now, look at Block 1704 a moment, which is directly opposite the park. There you have appraised interior street lots on 110th Street, if my figures are correct, at only $5,500, whereas you have appraised the interior street lots on 110th Street in Block 1682 just across First Avenue at $8,500?

A. Yes, but this block is a very poor block in comparison.

Q. Which is?

A. 1704.

Q. But that is opposite the park, isn't it?

A. A portion of it is.

Q. Isn't it all opposite the park?

A. No, it is not.

Q. Well, facing the park?

A. Oh, the whole block looking at it one way is, but the entrance to the park is through 111th Street; no entrance to the park through 110th Street.

Q. But the block is opposite the park for its whole extent?

A. Yes; the 111th Street front is.

Q. Now, taking Block 1682 on 110th Street, you give the value of inferior lots between First and Second Avenue as $8,500?

A. Yes.

Q. But the interior lots in Block 1704 on 111th Street which face the park you give at only $7,000?

A. That is so.

Q. Why is that if it is more valuable? Because it faces the park?

A. I did not say that it was more valuable than the lots on the other block there. I said they were more valuable than the lots on 110th Street on the same block.

Q. You don't think, then, being opposite the park makes the lots any more valuable than they are on the opposite block?

A. More valuable than the lots on 110th Street in that neighborhood.

Q. Can you point out the sale of any lot within the last
4339 year in that vicinity at as low a price as $5,500?

A. On the streets?

Q. Yes, any full lot at a figure as low as $5,500?

A. The only sales I have in that locality during the past year are sales of plots upon which buildings were situated.

Q. Now, let me call your attention to this; aren't you familiar with the sale of 308 to 320 East 110th Street, west of First Avenue and directly opposite?

A. I thought you were asking me about First Avenue.

Q. No, I am asking about the street, 175 by 100, 308 to 322 East 110th Street, with only sheds, selling in 1905 at $74,550, or at the rate of $10,650 a full lot.

A. No, I am not.

Q. Don't you find a record of the sale of that property in November, 1905, on your memoranda?

A. No, sir.

Q. I have another record of a sale, 324 to 326 East 110th Street, west of First Avenue, and also directly opposite the Gas Company's property, 50 by 100, with sheds only, as selling in July, I think in 1905, at $19,300, or at the rate of $9,600 per lot. Cannot you find a record of that in your memoranda?

A. No, I haven't that record.

Q. Can you point to any sale?

A. No, I cannot.

Q. Now, will you turn to page 11 of Exhibit 48, Block 1999. There you appraise the interior lots at $6,000 per lot. Can you give me any sale in the immediate vicinity within the last year at as low a figure as $6,000 per lot, between 132d and 133d Streets, east of Twelfth Avenue?

A. No, the nearest sale I have made was on the corner of Broadway and 132d Street. I sold four lots there in October.

Q. At 132d Street?
A. And Broadway. That is my nearest sale.

4340 By Mr. PAGE:

Q. Was that the Boulevard or old Broadway?
A. The Boulevard. That is a sale I made myself.

By Mr. MATHEWSON:

Q. Have you a record of a sale on the south side of 132d Street, midway of the block, between Broadway and Twelfth Avenue?
A. No, I have not.
Q. 130 by 100, vacant, sold in 1904?
A. No, I have not. I have not the records with me as far north as that.
Q. You haven't any record of a sale there at $8,800 per lot?
A. Not with me.
Q. Property in that neighborhood has been increasing the last two or three years?
A. Very much indeed, on the Boulevard and near the subway stations.
Q. And between the Boulevard and Twelfth Avenue?
A. Not so much, excepting in very good blocks there have been a great number of sales, large amount of building.
Q. This property is located very near the Boulevard and runs through to Twelfth Avenue, Block 1999?
A. It has great disadvantages, such as the Riverside structure—the viaduct on Twelfth Avenue and the viaduct portion of the subway on the Boulevard and then it descends very abruptly from 133d Street south, and these streets descend abruptly to Twelfth Avenue.
Q. But all that property has partaken of the general advance in property, hasn't it?
A. Yes, but the property that has had the largest amount of advance has been property further north on the Boulevard.
Q. But the presence of the subway and the opening of the subway, even though it does crop out now and then, has on the
4341 whole increased the value of property in that section?
A. It has wherever the subway has been built.
Q. And it has been built right close to this property?
A. Yes, sir, very close.
Q. Now, will you take finally Block 2175, page 12, of the exhibit, which is an irregular piece, which you have appraised at $89,375.
A. Yes, sir.
Q. Is it not true that with the opening of the subway and general advance, prices have advanced in that section very largely in the last two years?
A. Very largely.
Q. Did you figure for a lot on Sherman Avenue, how much that would be worth?
A. Yes, sir.
Q. What did you figure a lot on Sherman Avenue to be worth?
A. I figured them to be worth what they sold for to-day, $5,500 apiece.

Q. $5,500 apiece?

A. Yes, what they have sold for to-day.

Q. On Sherman Avenue at this point?

A. Yes, sir, just about that point.

Q. Has not this plot a greater value than ordinary because of the fact that it fronts not only Sherman Avenue but has a large frontage on Kingsbridge Road?

A. The Broadway front or Kingsbridge Road front is worth about the same as Sherman Avenue. Perhaps—well it is a little further away from the subway station, but they bring about the same in the market, notwithstanding the fact that Broadway seems to be in much better condition.

Q. Now, Mr. Wells, on what basis did you value this property, on the basis of the presence of the gas works there?

A. That has something to do with creating the condition of any neighborhood.

Q. And if the Gas Company were to sell off for general improvements this property, thereby of course disposing of the gas
4342 works, that would immediately result in an increase, would it not?

A. It would by the building operations that would come in that neighborhood.

Q. Would not it, by the very fact that the property was to be sold, thereby necessarily disposing of the gas plant, result in higher prices than you have estimated for the value of the property as it now stands?

A. I think I have given the fair market value of it to-day, even in——

Q. If the gas plant were removed from the property, don't you think it would sell for higher figures than you have given?

A. People in going around in this examination, people would speak about the gas plant being removed, and it seems to be pretty generally understood among them, and notwithstanding that fact, these values that I have given to-day are about the values that I think property is bringing in the neighborhood.

Q. You mean by private negotiation?

A. Private negotiation, although I think it probably brings better prices at public sale than at private negotiations.

Q. So at public sale if these plots were put up and sold, you think it would bring more than at private sale?

A. Yes, if the property were well advertised and you had a good auctioneer.

Q. You are not an auctioneer?

A. I am.

Q. Don't you think that 42d Street property next to the ferry, if it were known that the company's plant were to be removed and the neighborhood were to be improved in that regard, would sell for higher figures even at private sale than you have suggested?

A. I do not think the ferry is any difference there—makes any different conditions than the ferries do in the other streets in the

city; the people rush past the property without improving it much in the way of trade.

Q. Don't you remember they used to say the same thing
4343 about 42d Street and the Grand Central Station, that that was of no value, as a business street, because people rushed past it to the station?

A. Yes, but conditions have changed, there is a different class of people and different growth.

Q. And was not real estate very dead on 42d Street comparatively a few years ago on that account or for some other reason?

A. The subway has had a very beneficial effect, and the millions that have gone into new buildings have had an effect on 42d Street.

Mr. PAGE: And the general movement of business property uptown.

The WITNESS: I made an appraisement for the Rapid Transit Commission for the damage done by constructing the subway, and I made a pretty thorough examination of 42d Street at that time. Forty-second Street to-day is very different from what it was when the subway commenced.

Mr. MATHEWSON: That is all.

The MASTER: We will adjourn until 10:30 to-morrow morning.

Mr. BURR: I would like to have noted on the record before we adjourn, that the following directors of the Consolidated Gas Company were duly served with subpœna to appear to-day. Messrs. Sterling, Baker, Schermerhorn, Palmer, Tilford and Pyme. Of these gentlemen Mr. Schermerhorn actually did appear and was, at his own request, excused until 11 o'clock on Monday; so I ask that it be noted on the record.

Mr. MATHEWSON: Mr. Tilford called me up and said that the gentleman who served him said that he need not appear to-day unless it was convenient, and I told him under those cir-
4344 cumstances I thought he would be safe in not appearing.

Mr. BURR: I understand Mr. Sterling is to appear here at 11 o'clock to-morrow. If you can kindly arrange to have the other gentlemen here at the same time——

Mr. MATHEWSON: I do not think I can, for I do not know their addresses, and I am not in communication with them. I do not believe I can, really.

Adjourned to Wednesday, November 28th, 1906, at 10:30 A. M.

Last Exhibits:

Complainant's 256,
State's YY,
City's 86.

4345 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, at Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *November* 28, 1906.

Met pursuant to adjournment.

Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Garver, Mr. Kirby.

4346 Mr. Wells appeared and handed in, as per agreement yesterday, the total of the valuations given by him as follows, the same being exclusive of bulkheads, water rights and land under water, as follows:

Consolidated Gas Company.

Valuation of Land, by James L. Wells.

Block.	Lot.	Valuation.
1643	56, 57, 58	$71,000
1642	32, 33	62,500
870	54, 56, 59, 60	203,854
239	1, 5	142,500
972	45	22,651
985	7, 19, 20, 39, 40	213,150
982	13	299,939
989	1	139,500
989	26	96,480
991	26	123,500
991	1	199,500
988	1	402,500
688	21	300,350
689	17	371,350
690	12, 40, 42, 43, 44, 45, 48 49, 50, 51, 53	386,350
691	11	142,350
666	3, acquired by the city.	
666	12, acquired by the city.	
716	14	36,000
715	51, 59	108,000
951	35	52,800

	952—7, 29, 30, 33, 34, 35.....	333,800
	953—1	435,700
	979—1	413,406
	978—1, 2, 3, 5, 6.....	368,265
	987—37, 41, 42, 43, 51.....	88,008
	1090—23	72,000
4347	1071—10, 11, 12, 13.....	50,000
	1070—5	76,000
	1089—1	584,500
	1092—1, 28, 38, 38½, 39.....	422,500
	1093—1	322,500
	1457—6	149,230
	1455—13	185,500
	1474—24	20,920
	1157—21	170,757.60
	1157—1	596,000
	1156—45, 46	32,000
	1670—1	463,000
	1692—1	191,114
	1683—18, 34, 35.....	90,500
	1682—8, 11	371,000
	1704—1	364,500
	1712—2	53,848
	1999—1	346,200
	2175—15, 18, 22, 100.....	89,375
	Total.....	$9,664,897.60

Mr. BURR: I wish to state, Mr. Master, that I have had a consultation with Mr. Mathewson and with Mr. Garver, relating to the statement printed in the *Tribune* which we offered in evidence here and which has been marked City's Exhibit 55; and, as I stated yesterday, we have already issued subpœnas to all the directors of the company so as to examine them with regard to the statements contained in that printed publication, but from my conversation with Messrs. Mathewson and Garver it seems quite likely that we may be able to arrive at a stipulation which will obviate the necessity of bringing those gentlemen here. We are all anxious to hurry the conclusion of this case, and everything that can be done to hasten its conclusion I know you will appreciate, so we have determined to ask you
4348 this: we will endeavor to arrive at a stipulation which will be entirely satisfactory during the morning session here, and ask for an adjournment until the afternoon.

Mr. MATHEWSON: I understand, Mr. Master, that these witnesses would take up considerable time if they were called, and I understand that counsel for the City is willing to proceed on Friday provided a stipulation is not reached to-day, so we would lose, perhaps, no time between now and Monday anyhow. That being the case, it seems to me that we might be justified in making no opposition to the request.

Mr. BURR: If we cannot arrive at a stipulation that will be mutually satisfactory, I will agree to go on and examine these witnesses

Friday. If we can arrive at a stipulation that will be mutually satisfactory, then, as I stated yesterday, I will be ready to proceed on Monday with the accountants.

The MASTER: The suggestion is you should have a recess, then, until one o'clock?

Mr. BURR: Say the usual time for re-assembling—2.15.

The MASTER: As to that, the suggestion was the other day that Mr. Mathewson expected to leave town this afternoon on an early train—four o'clock—and we would have to suspend a little earlier than usual. I think if you can get together on a stipulation you should be able to do it by half-past one and you can come in here at that time and proceed.

Mr. BURR: Yes, I think so.

The MASTER: Is Mr. Wells' examination completed? Is there to be any redirect from him?

Mr. KIRBY: I understand his examination is completed.

The MASTER: Have you any other witness you can go on with now?

Mr. KIRBY: I have not, sir.

4349 The MASTER: Well, then, under these circumstances there is nothing to do but to suspend until 1.30, and you can work on the stipulation meanwhile, if you can.

I desire to say to counsel again with regard to the suggestion of going on on Monday that I am entirely willing to sit Friday and Saturday, and I think it right that you gentlemen should recognize the importance of speeding this cause, because I am very confident it will not be possible to extend the time beyond December 10th, and, including Saturday next week, you have only six working days—Monday will make seven—and, allowing proper time for cross-examination, you gentlemen will have to get in the rest of your evidence much quicker than you have been doing lately.

Mr. BURR: We will be ready with the accountants' report Monday, both as to Exhibit 94 and the real estate account. The situation regarding the examination of the plant by additional engineers is unfortunate, but they have started. I have Mr. Lacombe and Dr. Marks, and Senator Page and Mr. Kirby have procured Mr. Edgerton; they are now examining the plants, so that it will be a matter that will later on appeal to the discretion of the Court if it is satisfied they are hastening such examination as much as they possibly can. With that exception we will close this case next week.

The MASTER: It won't appeal to my discretion. No further extension will be granted beyond the time I named, which I consider ample under the circumstances. If you gentlemen choose to work short hours and not work Saturdays, and spend time as you did yesterday putting in documentary evidence that might just as well have been put in at some other time, that is your look-out. If you get any further time it will have to be from the Court, and I doubt very much if you get it.

4350 Mr. BURR: Well, next week it may be necessary to work all night. It has almost gotten to that point now.

Recess until 1:30 P. M.

After Recess.

1:30 P. M.

Mr. BURR: I have consulted with Messrs. Mathewson and Garver, in pursuance of the arrangement made this morning, and we have finally arrived at an agreement which reads as follows:

Admission of the complainant, to be entered on the record, and in consideration of such admission the defendant, the City of New York, withdraws the subpœnas issued to compel the attendance and giving of testimony by the directors of the complainant on the subject of said admission:

First. Complainant concedes that City's Exhibit 55 (appearing on page 2965 of the evidence) fairly and truly stated complainant's attitude April 15, 1904, under the conditions which then existed, as to the proposed construction and use of the Astoria plant, and as to the other matters therein referred to, and same may be put in evidence of such attitude then and under such conditions.

Second. The so-called Remsen East River Gas Bill of 1904 did not become a law, and no similar legislation or bill has since been introduced or become a law.

Third. Complainant at the time of making of the oil contracts heretofore offered in evidence herein and marked City's Exhibits 10 and 30, had thirteen directors, of whom William Rocke-
4351 feller was one, and said William Rockefeller was at the same time and still is a director in the Standard Oil Company, being the company with whom said contracts were made, but at the said time and for several months prior thereto the said Rockefeller was and had been in Europe.

Mr. BURR: I now offer in evidence the said City's Exhibit 55, heretofore ruled out, under this stipulation, as evidence of the attitude of the complainant then and under such conditions.

The MASTER: Was it ruled out or marked for identification?

Mr. BURR: It was excluded.

Mr. MATHEWSON: Then it may be marked in evidence.

Mr. BURR: It may be marked as received. The objection is withdrawn, as I understand.

Mr. MATHEWSON: We now offer it and we do not object, under the stipulation.

The MASTER: And it keeps its mark.

Mr. MATHEWSON: I suppose there is no objection to calling attention to the fact that this exhibit which has just been offered contains some errors not covered by the stipulation; *i. e.*, it refers to fourteen plants of the Consolidated Gas Company, which, of course, are a great many more plants than the Consolidated had; and I think it refers to the Astoria plant as being five times larger than any other in the world, which I think is perhaps out of the way in amount; at any rate, it is in evidence just exactly how many plants the company has and just how large the Astoria plant was.

Mr. BURR: Yes.

Mr. MATHEWSON: I call attention to that so that it may be observed.

Mr. BURR: That obviates the necessity for the calling and
4352 examination of these twelve witnesses for whom subpœnas had been issued, and many of whom had been served. I will be ready to — on Monday morning with the accountants.

The MASTER: You have not anything further this afternoon?

Mr. BURR: I have nothing further this afternoon.

The MASTER: Note on the record that Senator Page and Mr. Kirby are not present and have no witness, and there being nothing further ready we will adjourn until Monday morning at 10:30 A. M.

Mr. MATHEWSON: I understand that counsel for the defendants can have no testimony ready until Monday morning.

The MASTER: They so stated to me, that they could not go on until Monday.

Adjourned till Monday, December 3d, 1906, at 10:30 A. M.

Last Exhibits:

Complainants' 256.
State's Y Y.
City's 86.

4353 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,
vs.
JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *December* 3, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Page.

4354 JAMES HALL, recalled as a witness in behalf of the defendant, the City of New York, testified as follows:

Direct-examination by Mr. BURR:

Q. Where do you reside?
A. Philadelphia.
Q. What is your business or avocation?
A. Chartered accountant.
Q. How long have you been so engaged?
A. Between thirteen and fourteen years.
Q. Where, in this city or in Philadelphia?
A. In Scotland, England, Africa and America, and all over the States.

Q. Have you examined the books of many corporations of various kinds and descriptions?

A. Quite a large number.

Q. In the United States and in Europe and in other countries?

A. Yes, sir.

Q. Where did you graduate?

A. I am a member of the Institute of Accountants and Actuaries, Glasgow, Scotland.

Q. Any other societies or institutes?

A. No.

Q. On behalf of the City of New York, the defendant in this case, have you made an examination of the books of the Consolidated Gas Company for the year 1905 for the purpose of verifying the exhibit produced here by the complainant, known as Exhibit 94?

A. I have.

Q. What books did you examine?

A. I examined all the vouchers and ledgers, journals, consumers' ledgers, wages and pay rolls, labor tickets.

Q. How long were you engaged in this examination?

A. Between five and six weeks.

Q. Besides Exhibit 94, did you make an examination of the real estate account of the Consolidated Gas Company as it ap-
4355 peared in the books of the constituent companies?

A. Yes, so far as we got those books.

Q. Did you also make an examination of the items going to make up the amount of three million and odd dollars as the same appears on Exhibit 80?

A. I did.

Mr. MATHEWSON: What is that?

The WITNESS: Sundry creditors, October 31st, 1905, I think it is.

Mr. BURR: The item of sundry creditors, $3,357,037.95, as it appears on Exhibit 80.

Mr. MATHEWSON: And what is Exhibit 80?

The WITNESS: I think that is your statement of operations, October 31st, 1905.

Q. Now, have you prepared a report as the result of the examination so made by you of the books of the company regarding Exhibit 94 and Exhibit 80, and the real estate account?

A. Yes, sir.

Q. Is this book which I hand you the report which you made?

A. It is.

Q. Do you remember what you found as the result of such examination to be the total cost of manufacturing and distributing gas sold to private consumers in the City of New York by the Consolidated Gas Company during the year 1905?

Mr. MATHEWSON: Just a moment. I think that that is a conclusion.

Mr. BURR: I was going to ask him how he arrived at it. I can either go one way or the other.

Mr. MATHEWSON: I do not think that is a proper question. This witness is not in the gas business and he cannot testify what should

or should not be included, according to Mr. Marks' affidavit
4356 and testimony. He can testify, it seems to me, what the items are that he objects to, and we can determine whether they are properly chargeable or not.

Mr. BURR: He is testifying now as to what result he arrived at from an examination of the books of the Consolidated Gas Company, so far as Exhibit 94 is concerned, which he was authorized and instructed to do.

Mr. MATHEWSON: He was not authorized to draw these conclusions you have asked him, and this great big conclusion in one, it seems to me, is improper.

Question read.

The MASTER: You can modify that question so as to be unobjectionable, I think. In view of the rulings already made, I will let the witness testify as to what the results of his computation show from data derived by him from the books of the company, as to the cost of gas, if the theory on which he made these computations is also shown.

Mr. BURR: I will withdraw the question.

Q. What day was it you started in to make this examination?
A. October 12th.
Q. What was the first thing you did?
A. Called for the vouchers and ledgers.
Q. Did you make an examination of the vouchers?
A. We did.
Q. For what purpose?
A. For the purpose of determining whether or not they were proper charges against operation, in the manufacture and distribution of gas.
Q. What else did you do?
A. Checked all the postings of the operating ledger with the view of determining whether all the vouchers had been produced; tested the consumers' ledgers in order to test the quantity of gas sold and distributed.
4357 Q. Does this report which you have identified correctly set forth the figures which you obtained from the books of the company and the result of your examination of said books?
A. It does.

Mr. MATHEWSON: I do not think it is of very much importance whether it does or not. I assume you do not propose to try to offer that report here?

Mr. BURR: That is just what I do propose to do.

Mr. MATHEWSON: I shall certainly object to it. I do not think counsel or the Master will want to wade through that report and find what the witness finds in regard to Exhibit 94. I am not speaking for the Master, but so far as I am concerned I shall object.

Mr. BURR: On this record here now we have Yalden's report and you had in the Gas Commission Teal's report. Now we will have the report of these gentlemen who have been designated to examine the books of the company to verify your Exhibit 94.

Mr. MATHEWSON: We never had Yalden's report; you offered that yourself, and I think the Master suggested that it was of doubtful value, but he would accept it. We did not offer Teal's report. He was put on the stand by the Commission and testified.

Q. What does this report contain?

A. It contains the result of our examination of the books of the company in detail and our reasons for rejecting certain items improperly chargeable against the manufacture and distribution of gas, and our reasons for omitting others.

Q. There are certain exhibits attached to this report. Will you explain them, please.

4358 Mr. MATHEWSON: I object to this. The report that has been passed to counsel by the witness, I judge from its volume is certainly very voluminous. It does not seem to me it is very difficult to point out whether Exhibit 94 shows the actual facts, and secondly, what items in Exhibit 94 are objected to and excluded by this witness. Whether they should be excluded or not is another proposition, without going into this immense volume.

Mr. BURR: That is what I propose to do by first calling his attention to these exhibits.

Q. What does Exhibit B show?

A. Statement of the quantities of gas manufactured, purchased and sold during the year 1905.

Q. Are these figures appearing on these exhibits taken from the books of the Consolidated Gas Company?

A. They are.

Q. What does Exhibit C show?

A. Exhibit C represents Exhibit 94 submitted by the complainant, an exact copy.

Q. Just as it was submitted by them?

A. An exact copy.

Mr. MATHEWSON: What does it relate to?

Q. What does Exhibit D relate to?

A. The same exhibit amplified and showing our adjustments.

Mr. MATHEWSON: What was Exhibit C?

The WITNESS: Exhibit 94.

Q. You might explain a little more in detail what you mean by showing your adjustments, as I understood you, referring to Exhibit D.

Mr. MATHEWSON: We are going to mix up the record dreadfully, if I may suggest it, because we have already Exhibits C, D,
4359 and so forth. Why not call it Schedule C, or something like that.

Mr. BURR: I think I made it distinctly understood that I was referring to the exhibits annexed to the report which he has in his hand, and which he has spoken of as having been made from the books of the company, and I am now referring to Exhibit D, which he says shows the summary of the operations for the year ending October 31st, 1905, amplified and adjusted.

Q. I ask you to be a little more specific as to what you mean by amplified and adjusted.

The MASTER: Is not this getting at it a little wrong-end-to, so to speak? I understand Mr. Mathewson's objection, and it seems to me it is entitled to some weight. If you are going to attack Exhibit 94, you want to prove in the first place by some substantive proof what particular features of it you criticise and what the nature of the criticism is. Then, having done that, having made some primary proof of that kind to lay the foundation by, it may be proper to take in all these other tabulations and computations as a summary result of the witness' testimony; but I do not quite see how, without laying any foundation by any testimony of the witness, you can go to work and ask him to make a general statement of a schedule here which you have not even introduced in evidence yet.

Mr. BURR: I merely asked him. My object in asking these questions was to meet the objection of Mr. Mathewson by asking him to identify the exhibits and papers which accompanied this report. I will proceed, then, to find out what, if any, items of Exhibit
4360 94 he has eliminated, and then we will get to the reasons for it, and then we will get to the conclusion as the result of such elimination, if he can support it. But I am trying to satisfy the objection made by Mr. Mathewson, and I think we will save time by getting him to identify first his report, after telling what labor he has expended upon it, and then what it purports to contain and what are the exhibits attached to it, and then I will proceed to ask him in regard to what he found as the result of all this examination and what was the conclusion which he arrived at with regard to Exhibit 94 by any elimination of any items in that exhibit, and then state his reasons and explain his reasons, and then offer the report and the figures and exhibits accompanying it.

The MASTER: You will probably get at the same result, but I don't know.

Mr. BURR: If you think it will save time, I will pursue the identification of these papers which accompanying the report and will ask him directly about the report.

The MASTER: It would make it much more intelligible to take up the Exhibit 94 and go through it, item by item, and find what he criticises in it, and then if he has *has* any detailed tabulations which support his conclusions put them in. I do not assume you are going to put in any long narrative report and offer it in evidence with the assumption that it will be received in place of oral testimony.

Mr. BURR: Oh, no.

The MASTER: Your tabulations will be all well enough, but not the other.

Q. Take Exhibit 94, Mr. Hall, appearing at page 2300-A,
4361 and tell the Court exactly what you did with re-ard to the various items which appear in that exhibit, and as to what items, for instance, you rejected, and your reason therefore, and what items you retained and your reason therefor.

A. Items 1 to 33, I do not take any exceptions to those items. Item 34, Repairs to Apparatus——

Q. What did you do with that?

A. We found certain vouchers which I considered were improperly charged to this account, being more correctly construction. I submitted them to the Advisory Board of Engineers for their opinion——

Mr. MATHEWSON: Just a minute. I don't know — the Board of Engineers are. A board of our engineers?

The WITNESS: No, the City engineers.

Q. In making this examination of the books of the company for the year 1905, were you aided in any way by a Board of Advisory Engineers, and, if so, you may state who constituted that board?

A. Well, Mr. Charles F. Lacombe, the Chief Engineer of the City; Dr. Marks and Mr. H. H. Edgerton.

Q. In case of any doubt in your mind in regard to any of these vouchers, did you submit them to the Board of Advisory Engineers?

A. I did.

Q. Was that item eliminated?

A. $2,133.98 eliminated.

By Mr. MATHEWSON:

Q. Out of the totals of?

A. $169,197.39.

By Mr. BURR:

Q. That made the amount allowed by you $167,063.41?

A. Yes, sir.

Q. What difference did that make in the cost per thousand cubic feet?

4362 A. .02. I may say here that we have assumed a different method of computing gas per thousand feet than that adopted by the Consolidated.

Q. What method did you assume?

A. The cost of gas we divided by the actual manufacture, and the total cost of manufactured and purchased gas by the quantity manufactured and purchased, and the sale and the distributing expenses by the quantity sold to private consumers.

Q. How did that effect this item 34?

A. By about .03 cents.

Q. In other words, so far as that item is concerned on Exhibit 94 as presented by the Consolidated, .62 cents was allowed as the cost per thousand cubic feet of gas?

A. Yes.

Q. The amount claimed was $169,197.39. According to your revision, that amount should be $167,063.41, and the cost per thousand cubic feet of gas instead of 1.62 should be 1.57; is that right?

A. Yes, sir.

Q. Decreasing the amount charged to the cost per thousand cubic feet of gas, .05; is that right?

A. Yes, sir.

Mr. MATHEWSON: I thought .02 of a cent.

The WITNESS: The other .03 of a cent applied to the different mode of calculation.

The MASTER: As I understand, the reduction is made up of two elements: first, the difference in that item 34 and then, second, the difference in the method of calculation, each of which affects the final result?

A. It does; yes, sir.

By Mr. MATHEWSON:

Q. In order to inform myself, may I ask a single question,
4363 whether in your computation getting the 1.57 cents you divided by all the gas made by the company, including even the gas which was used by the company in its own business for lighting and so forth?

A. Yes.

Q. And not merely the amount of gas which was made and which was started into the mains?

A. No. I afterwards allowed for the leakage or difference, excess over sales or whatever you call it.

Q. Well, I am simply talking about your divisor here.

A. Yes, I know.

Mr. BURR: It states in the exhibit. The difference in the divisor he calls attention to it at the top of page 1.

By Mr. BURR:

Q. What is the next item?

A. Account 35. Repairs to buildings. The amount entered by the company was $24,900.69, or .24 of a cent per thousand cubic feet. We allowed $24,812.19, rejecting $88.50.

By Mr. MATHEWSON:

Q. What are "we"?

A. Well, I.

By Mr. BURR:

Q. Making the cost per thousand cubic feet .23 of a cent?

A. .23.

By Mr. MATHEWSON:

Q. What was the amount eliminated on that item as going to construction?

A. $88.50.

By Mr. BURR:

Q. And a decrease per thousand cubic feet of .01?

A. Yes, sir.

4364 By Mr. MATHEWSON:

Q. Was any part of that due to the method of calculation?

A. Well, the .01 would really enter into that. The $88.50 would not come to an appreciable fraction of a cent.

By Mr. BURR:

Q. What was the next item?

A. Item 43; cost of manufacturing gas purchased under agency agreements, $997,039.89, or 34.82 cents per thousand cubic feet.

Q. That was the way it appears in Exhibit 94 as presented by the company?

A. It does.

Q. What disposition did you make of that item?

A. I rejected $142,580.32, representing——

Q. With that deduction the amount you allowed was——

A. $854,459.57.

Q. Or how much per thousand cubic feet?

A. 29.14 cents.

Q. Which would make a difference and a decrease of——

A. 5.68 cents.

Q. In the cost per thousand cubic feet of gas?

A. Yes.

By the MASTER:

Q. That 5.68 cents also includes such allowance as is to be made by reason of different methods of computation?

A. It does.

Q. Have you segregated or separated in any way the percentage which is due to the eliminated items and the percentage which is due to the difference in the methods of computation? In other words, what are the factors going to make up that 5.68, if you have them?

A. .03 cents, the profit added to the cost of gas purchased. The remainder would apply to that different computation.

4365 By Mr. BURR:

Q. What was the next item which you eliminated?

A. Item 47, repairs to gas stoves.

The MASTER: He was about to state what that reduction of $142,580.32 represented, I think. Would you mind asking him that?

Q. What was this amount $142,580.32, which you deducted from the $997,039.89 appearing upon Exhibit 94 as presented by the company?

A. It represents ten per cent. of the manufacturing cost of the gas purchased by the Consolidated, and five per cent. of the amount expended for new construction work on account of the New Amsterdam Company building new works, and the Consolidated give them five per cent. on the construction value.

By Mr. MATHEWSON:

Q. That was five per cent. interest paid, wasn't it?

A. Yes.

By Mr. BURR:

Q. That ten per cent. to which you have referred, is that the ten

per cent. profit allowed by the agreements in evidence here, the agency agreements?

A. Yes, sir.

Q. That is, the ten per cent. profit allowed by the Consolidated Gas Company to the subsidiary companies under the agency agreements which are in evidence here—you eliminated that ten per cent.?

A. Yes.

Q. And that ten per cent. makes part of this $142,580.32 which you have thrown out or rejected?

A. Yes.

4366 By Mr. MATHEWSON:

Q. And the balance is five per cent. interest on——

A. On the New Amsterdam construction.

By Mr. BURR:

Q. What was the next item which you eliminated?

A. Item 47, repairs to gas stoves, $55,954.35.

Q. That was the amount presented by the company in the Exhibit 94?

A. It is.

Q. And that amount so presented by the company represents, according to the Exhibit 94 as presented by the company, .42 of a cent as applied to the cost of a thousand cubic feet of gas?

A. Yes.

Q. Now, what disposition did you make of that item?

A. I took the rents received by the company, deducted the depreciation written off by them, and brought the balance into credit as an offset of the charge of $55,000.

Q. The divisor in this case was what?

A. 13,012,384,090.

Q. And what was the result which you obtained as against the result claimed by the company in this exhibit?

A. A credit of $11,413.27.

Q. That made the cost per thousand feet of gas what?

A. There would be a credit of .09 of a cent.

Q. Or a difference of between what the company claims and what you found, of what?

A. .51 of a cent.

By the MASTER:

Q. That is on the other side of the account, then?

A. Yes, sir.

Q. In respect to that item you would make the cost more than the company does, is that it?

A. No; it reduces the cost.

4367 Q. Then all these others in red ink, are they contrary?

A. They represent credits.

By Mr. BURR:

Q. What was the next item?

A. Account No. 49, repairs to services, $89,033.46.

Q. When you say $89,033.46, that is the amount which appears upon Exhibit 94 as claimed by the company?

A. Yes.

Q. What did they claim as the cost per thousand cubic feet of gas?

A. .67 of a cent.

Q. What did you find?

A. $87,183.15.

Q. In other words, you eliminated from that amount claimed by the company $1,850.31?

A. Yes, sir.

Q. Making any difference in the cost of one thousand cubic feet of gas?

A. No; none.

Q. What did that $1,850.31 represent?

A. That is the operations on account of services increased and extended.

Q. What was the next item?

A. Repairs to buildings, $15,116.68.

Q. What is the number of it?

A. No. 51.

Q. What does that item appear to be on Exhibit 94?

A. Repairs to buildings.

Q. I mean to say what is the amount claimed by the company?

A. $15,116.68, or .11 of a cent.

Q. Cost per thousand cubic feet. What did you do with that item?

A. I rejected $2,845.75 and admitted $12,270.93, or .09 of a cent.

Q. Making the cost per thousand cubic feet——

A. Of .09 of a cent per thousand.

Q. Or a difference between that claimed by the company and what you found of——

A. Of .02 of a cent.

Q. What was the next item which you rejected?

A. Item 53, street lamps $289,259.09, representing 2.18 cents, as claimed by the company.

4368 Q. What did you do with that item?

A. I rejected it.

Q. That made a credit, did it? What was the result of the rejection of that item, as far as the cost of a thousand cubic feet of gas was concerned?

A. A difference of 2.18 cents per thousand.

Q. What was the next item?

A. Item 54, interest on consumers' deposits, $51,391.52, representing .39 of a cent.

Q. As appears on Exhibit 94?

A. Yes, sir.

Q. What did you do with that item?

A. Rejected it.

Q. As a result of the examination of the books?

A. Yes, sir.

Mr. MATHEWSON: Does he mean that he found by the books that no such amount was paid out?

The WITNESS: No.

Mr. MATHEWSON: Then it is not on account of the examination of the books. It is simply on account of his theories.

Mr. BURR: Well, he would not have rejected it without getting the information, whatever it was, from the books, from an examination of the books.

Mr. MATHEWSON: It is not on account of an examination of the books that he rejected it.

The WITNESS: It is on account of my theory.

By Mr. BURR:

Q. That was rejected?

A. Yes, sir.

Q. Making the cost per thousand cubic feet of gas at what figure?

A. .39 of a cent.

Q. A decrease?

A. A decrease.

Q. What was the next item?

4369 A. Account 58, Expense, General Office, charged by the company at $339,999.51, or 2.56 cents per thousand.

Q. What did you do with that item?

A. I admitted $308,923.56, or 2.37 cents, and rejected $31,075.95, or a decrease of .19 of a cent.

Q. What was the next item?

A. Account 61, advertising and legal, $105,800.02, or .80 of a cent per thousand cubic feet as charged by the company.

Q. What did you do with that item?

A. I admitted $42,398.37, or .32 of a cent, and I rejected $63,401.65, or .48 of a cent; a decrease.

Q. What other item did you eliminate?

A. Account 62.

Q. What was that?

A. Real estate rents, charged by the company at $42,674.71, or .32 of a cent. I admitted $42,049.71. I rejected $625. It makes no difference in the computation.

Q. What was the next item?

A. The Account 65, insurance, $54,031.83, or .41 of a cent per thousand. I admitted $53,879.39 and rejected $152.42. No difference in the computation.

Q. What was the next item?

A. Account No. 66, taxes, $965,843.88, or 7.27 cents.

Q. What did you do with that item?

A. I admitted $743,151.26, or 5.71 cents per thousand, and I rejected $222,692.62, or 1.56 cents per thousand; decrease.

Q. What was the next item?

A. Account 67, contingent expenses, $1,328,316.37, or 10 cents per thousand. I rejected $1,160,888.53, or 8.71 cents per thousand, decrease; admitting $167,427.84, or 1.29 cents per thousand.

The MASTER: Was there any item out between 62 and 66?

Mr. MATHEWSON: 65. Insurance.

Q. Any other item?

A. Yes. I made an addition to the cost of .73 of a cent
4370 per thousand on account of leakage or excess of make-over sales. I made a further reduction of .04 of a cent on account of discounts not entered by the company in Exhibit 94.

Q. What was the result of the elimination of these items or a modification of them that you have testified to, as to the general result?

A. My deductions make the cost 52½ cents per thousand as compared with 74.81 cents per thousand in Exhibit 94.

By Mr. MATHEWSON:

Q. Per thousand sales?

A. No, per thousand cubic feet.

Q. Per thousand cubic feet what?

A. Per thousand cubic feet of gas manufactured and distributed.

Q. Sales?

A. No, partly arrived at on sales and partly on make.

Mr. MATHEWSON: We do not get anything from consumers except on sales.

The WITNESS: Or a difference of 22.31 cents.

Mr. MATHEWSON: The witness did not exclude fixed charges, I judge. He has not commented on that.

The WITNESS: Item 69, I did exclude that; that $972,423.44; 7.32 cents per thousand.

By Mr. BURR:

Q. Embracing fixed charges, you have now stated all the items which you have modified or eliminated?

A. I have.

Q. And you have also stated the items which you have allowed for leakage and discount?

A. Yes.

Q. And that shows that you have stated, according to your
4371 computation, a cost per thousand cubic feet of gas of 52.50 cents, as against 74.81 cents claimed by the company?

A. Yes, sir.

Q. How much does that make in actual figures?

A. $6,922,738.45, or 52.50 cents per thousand feet; a difference of $3,014,192.08, or 22.31 cents per thousand cubic feet.

Q. In arriving at this result you examined all the various accounts relating to all the various items which you have specified?

A. I did.

Q. And have you attached to your report statements in regard to each of these items as taken from the books of the company?

A. I have.

Q. Now take the accounts as they appear on Exhibit 94, Nos. 1 to 33; what is the total? Items 1 to 33 represent what?

A. Total material and labor employed in manufacture.

Q. And the amount of those 33 items, as appears by Exhibit 94, presented by the company, is what?

A. $3,101,832.24, or 29.77 cents per thousand.

Q. As to those 33 items, what disposition did you make of them?
A. I admitted all those charges as proper.

The MASTER: He stated that already, Mr. Burr, at the outset of his testimony.

Mr. BURR: There is some slight variation I wish him to explain.

Mr. MATHEWSON: One is on the gas made and the other on gas sold. That is all.

Q. Now you examined the items comprising that total, did you?
A. I did.
Q. And you found them correct?
A. Yes, sir.
Q. And did you make an analysis of the manufacturing record- which contain in detail the manufacturing averages and results?
A. I did.

4372 Q. And those manufacturing records, where do they appear in connection with your report? Are they annexed to it?

A. Yes, sir; in Exhibit E.

Q. Item 34, repairs to apparatus; where does amount charged under this classification, together with the amount improperly charged, as you claim, to operating expenses, the same being correctly construction items, appear?

Mr. MATHEWSON: Are you asking what constitutes this $2,133.98 which he eliminated?

Mr. BURR: I am speaking about item 34, repairs to apparatus.

Mr. MATHEWSON: He stated he eliminated $2,133.98. It seems to me that all we are interested in is knowing what it consists of.

Mr. BURR: That is all I am going to give you, as they appear, by stations.

Mr. MATHEWSON: Do you intend to give us the totals or the items?

Mr. BURR: Yes, the totals represented by labor and material, total cost and the amount rejected and the amount allowed for each of your five stations.

Mr. MATHEWSON: Why not have the witness testify to it. You ask if it is contained in his report, and I judge you are going to offer his report, but that report has a lot of other arguments, such as Dr. Marks indulged in.

Mr. BURR: You have no reason to make any assertion as to other arguments such as Dr. Marks indulged in, and I move that that be stricken out.

Mr. MATHEWSON: I will admit that that is an assumption.

Mr. BURR: I am going to give you now what you seem desirous of getting; that is, the items going to show the details from which he makes up the conclusions that he has arrived at.

The MASTER: Yes, let him state it.

4373 A. In that account I rejected $2,133.98. The details are found in Exhibit D, Schedule 2. The vouchers were submitted by me——

Q. Never mind that. The account 35, repairs to buildings; where do the details of the amount rejected by you appear?

A. Schedule 3 of Exhibit D.
Q. Item 36, repairs to tools and implements?
A. I admit that account.
Q. But you have incorporated in your report a statement of the cost of manufacture per thousand cubic feet of gas manufactured at each station, so far as that item is concerned?
A. I have.
Q. And it appears upon page 10 of your report, does it?
A. It does.
Q. Also does the same apply to item 37, expenses?
A. Yes.
Q. And item 38, distribution?
A. Yes.
Q. And item 39 is, as you say, a proper charge, is it?
A. Yes.
Q. What have you to say as to account 40, profit and loss adjustment.
A. It is a proper credit.
Q. And you have a table making up item 41, annexed to your report, distributing station expense?
A. Yes.
Q. And the same appears on page 11 of your report?
A. Yes.
Q. Item 42, station cost of gas, you have that account annexed also, have you?
A. Yes.
Q. That account represents the total of the preceding Nos. 1 to 41, does it?
A. Yes.
Q. You have also annexed to your report in connection with item 43, cost of manufacturing gas under agency agreement, copies of the agency contracts or agreements, have you not?
A. Yes, sir.

Mr. BURR: They are already in evidence here, I believe.

Q. Have you noted any difference in the agreement be-
4374 tween the New Amsterdam Gas Company and the Standard Company?
A. Yes.
Q. If so, state what.

Mr. MATHEWSON: Just a moment. The contracts are in evidence here. And what difference does it make whether the witness has noted any difference between those contracts or not?
Mr. BURR: As affects this account.
The MASTER: Let him answer it if it is going to be connected with something affecting this account.
Mr. MATHEWSON: It refers to the interest, I suppose, on construction.
Mr. BURR: I move that Mr. Mathewson's supposition be stricken out.
Mr. MATHEWSON: I consent to that.

A. There are two differences in the contracts. The contract with the New Amsterdam is similar to the Standard with the exception that it states that the amount of station repairs is added to the cost, and the Standard contract does not bear that. The New Amserdam contract also provides for interest at five per cent. on the amount expended on construction work of the new station.

Q. Where do the details of the quantities of gas purchased from these subsidiary companies, together with the total cost and the rate per thousand cubic feet of gas, appear?

A. Schedule 4, Exhibit D, annexed to my report.

Q. Account Item 44, total cost at holder——

Mr. MATHEWSON: The next one he objected to any part of was 47 after 43; repairs to gas stoves.

Q. Did you find any variation in the figures given by the
4375 company and the figures found by you from an examination of the books with regard to your account 44, total cost at holder?

A. Yes, sir.

Q. What variation?

A. The variation is the repairs to apparatus account, repairs to buildings account and gas purchased under agency agreements.

By Mr. MATHEWSON:

Q. That was merely changing the total by deduction of the items to which you have already testified?

A. Exactly.

By Mr. BURR:

Q. You made the total cost at the holder how much?

A. A difference of $144,802.80, or 1.83 cents per thousand.

Q. Well, the total cost?

A. The total cost as given by me $4,452——

Q. Yes, but taking this $144,802.08 out?

A. $4,307,328.46.

By Mr. BURR:

Q. As against the $4,452,131.26?

A. Yes.

By Mr. MATHEWSON:

Q. How many cents did you say that was?

A. 1.83.

By Mr. BURR:

Q. What did you find the average manufacturing cost of the subsidiary companies to be for 1905?

A. 29.14 cents per thousand.

Q. What did you find the average cost of the Consolidated——

Mr. MATHEWSON: Would you mind letting the witness
4376 state when he says 29.14 per thousand what he means, whether on sales, manufacture, gas received, or what, because it makes considerable difference?

Q. What do you mean by 29.14?
A. It is cost per thousand cubic feet of gas purchased from subsidiary companies.

By Mr. MATHEWSON:

Q. The cost to the Consolidated or the cost to the subsidiary companies?
A. The cost to the subsidiary companies before adding the ten per cent.

By Mr. BURR:

Q. Now, if the cost to the Consolidated was the same, what saving would the Consolidated have affected during the year 1905?
A. $492,008.86.
Q. Take item 45, expense, $490,855.36; how is that classified?
A. Under branch office expenses, meter shop expenses and street department expenses.
Q. And have you a statement showing the subsidiary details of these amounts annexed to your report?
A. No, sir. This is all I have.
Q. Well, you have the subsidiary details with regard to these amounts as they appear on page 15 of your report?
A. Yes.
Q. Account 46, distributing; how is that item made up, that item of $281,524.12?
A. Distribution, $258,383.65; distribution, general office pumping drip, $16,579.27; distribution, taking pressure, $6,653.98, and a credit of $92.78 on account of general office distribution.
Q. Have you an analysis of that account?
A. Yes.
Q. Where does that appear?
A. Page 16 of the report.
4377 Q. What does that analysis show?
A. It shows the labor expended setting meters, jobbing work, labor work setting stoves and material used in the hod-er.
Q. At each station?
A. At each station.
Q. That is at Hester Street, 114th Street, Avenue A and 66th Street?
A. Yes, sir.
Q. Some of this work is of a permanent character, is it not?
A. It is.
Q. And might it not be properly chargeable to construction account?
A. It might.
Q. But you have allowed the claim as made by the company for what reason?
A. The distribution written off on similar work in previous years would approximately offset any expenditures in the present year.
Q. You have allowed the distribution to be general office, pumping drips?
A. Yes.

Q. And you have a statement of the details of that on your report at page 17?

A. Yes.

Q. Also distribution, general office (C) and distribution, general office (D)?

A. Yes.

Q. Now the repairs to gas stoves, Item 47; how is that divided?

A. Labor, $30,641.83; material, $25,312.52; total, $55,954.35.

Q. Now, will you state the reasons for your treatment of that item as you have stated in your previous examination some little while ago? Did you eliminate that from Exhibit 94?

A. Yes. The practice of the company and the practice of all gas companies is not to make——

Mr. MATHEWSON: I move to strike out "the practice of all gas companies"——

The WITNESS: Well, the general practice of all gas companies——

Mr. MATHEWSON: I move to strike that out.

4378 Q. Do you know what the general practice is in regard to that?

Mr. MATHEWSON: The witness does not and cannot know.

Mr. BURR: Wait a moment. You do not know everything, Mr. Mathewson; nor do the officers of your company know everything as to the gas business. I have had occasion to remind you of that once or twice before during the hearings in this case.

Q. Do you know what the general practice is in regard to this item, in regard to the treatment of this item, so far as other gas companies are concerned, that have come to your experience?

Mr. MATHEWSON: Objected to.

The MASTER: I will allow him to state, from an accounting standpoint, what the general practice is. He is asked from his experience as an accountant, as I understand it?

Mr. BURR: Yes.

The WITNESS: It is not to make any profit on the merchandise branch of the business, simply to use that as an auxiliary for the furtherance of the sale of gas.

Q. And is it not a fact that they look to the profit from the sale of gas to reimburse them for any loss connected with the sale of fuel appliances?

A. They do.

Q. What was the conclusion you came to as the best way, having this mind, in which to deal with this item of repairs to gas stoves?

A. To take, as an offset, the rentals received from these gas stoves after deduction of the depreciation written off by the company.

Q. In this case, how much did that amount to for 1905?

4379 A. $122,322.60, rentals received; depreciation as written off, $54,954.98; leaving a balance of $67,367.62.

Q. What is the result of that treatment of that item, so far as Exhibit 94 is concerned?

A. To bring a credit into Exhibit 94 of $11,413.27, being the

difference between the amount as stated in complainant's Exhibit 94 and the amount brought out by me.

Q. That is the difference between $55,954.35 and $67,367.62?

A. It is.

Q. Now is this credit offset in any way?

A. It is.

Q. Where does that offset appear?

A. Account No. 45, for stoves, $13,324.32; stoves, collecting, $1,904.32; then account No. 46, for stove setting, $25,331.94, on account of labor, excluding material; and also account No. 58, for general office, new business account, $60,575.28, and in office account, $5,590.22; and also the proportion applicable to gas stove business of the general office expenses.

Q. Now, item 48, repairs to mains, what is that item of $126,110.31 for the year 1905 made up of?

A. Labor and material in three shops, Hester Street, 66th Street and 111th Street; total labor, $88,887.58; total material, $37,222.73.

Q. A total of how much?

A. $126,110.31.

Q. Did you find any statement as to the mileage in the books of the company?

A. No, that was supplied by the officials at my request.

Q. And what was the information which they gave you upon that subject?

A. The mains laid December 31st, 1904, 815.974 miles; laid during the year 1905, 11.327 miles, total 827.301. Taken up during 1905, 2.873; abandoned during 1905, 19.834, mains December 31st, 1905, 804.594.

Q. That gave an average mileage of 810.284 during 1905?

A. It did.

Q. What was the average cost of maintenance?

A. $155.63 per mile of main.

4380 Q. In your examination did you find certain charges in respect to relaying pavements, and if so, state what you did with regard to those items?

Mr. MATHEWSON: Mr. Burr, you are examining the witness with reference to items that he says he made no objections to, and which consequently stand. Do you think it is worth while to go into those details?

Mr. BURR: There are some items which we have grave doubt about, and yet to be on the safe side, beyond all peradventure of doubt, we have allowed them, and I am going to ask him to state them and to state his reasons.

Q. Did you find such items in respect to charges for relaying pavements?

A. I did.

Q. Did they contain specific information to satisfy you as to what accounts they should be charged against?

A. They did not.

Q. And in consequence did you take any action on the matter?
A. Submitted the matter to the Board of Advisory Engineers.
Q. And what conclusion did they come to?

Mr. MATHEWSON: I object to that.

The MASTER: Is not that stretching it a little far?

Mr. BURR: To save time, it is a continuous story, and we will have the engineers, and it may be stricken out if I do not connect it with the action that they concluded to take.

The MASTER: If you want what they concluded about it, you had better have them here to testify. It does not add anything to his testimony now that I can see. He may state what he did and how he arrived at it.

Q. In consequence of that consultation what did you do?
4381 A. I admitted them as operating charges.
Q. How does the street main capital account appear in the books?
A. On December 31, $7,433,800.57. Added during 1905, $83,548.08, total $7,517,348.65. Depreciation written off $90,561.54. At December 31st, 1905, $7,426,787.11.

Mr. MATHEWSON: That is, as they stand on the books on December 31.

The WITNESS: Yes.

Q. Item 49, repairs to services, how is that account distributed in the books?
A. Over the stations at Hester Street, 66th Street and 111th Street, divided into labor, $46,403.37, material $42,630.09, total $89,033.46.
Q. What is the statement of the number of services appearing on the books?
A. December 31, 1904, 88,685; installed during 1905, 2,745; total 91,340. Cut-off during 1905, 4,921 at December 31, 1905, 86,509.
Q. What does the capital invested appear to be?
A. On December 31, 1904, $1,221,831.83. Added during the year, $37,797.54, total $1,259,629.37; depreciation during year $37,401.00; at December 31, 1905, $1,222,228.37.
Q. What was that equal to per service?
A. $14.13.
Q. Did you make any special examination for the purpose of satisfying yourselves that the charges to both operating and construction account were proper?
A. I did.
Q. What did you do?
A. I examined all the pay-roll tickets.
Q. What did you find?
A. That a considerable number of extensions and increases to services had been charged to operating expense.
Q. Instead of what?
A. Capital.
4382 Q. Or construction?
A. Or construction.

Q. The labor on this work is detailed where?
A. Page 20 of the report.
Q. In Schedule 5, is it not?
A. In Schedule 5.
Q. Annexed to your report?
A. Yes.
Q. And briefly made up of what?
A. The Hester Street branch, $609.14; 66th Street, $107.71; 111th Street, $1,133.46, total, $1,850.31.
Mr. MATHEWSON: Those are the details of the rejected items to which you have heretofore testified?
The WITNESS: Yes.
Q. The material used was not recorded on these payroll tickets, was it?
A. Not the money value of the material.
Q. And were you able therefore to determine what additional amount should be added on this account to the cost of labor?
A. No.
Q. And in consequence the operating charge fails to be adjusted, does it not, is adjusted in what manner?
A. By the deduction of $1,850.31.
Q. Or equal to what, per average service?
A. The average charge to operating, 99.5 cents per service.
Q. For the year 1905?
A. Yes.
Q. Item 50, repairs to meters, what are the two items which go to make up that charge?
A. Labor and material.
Q. What were they?
A. Labor $126,069.90; material $46,855.62, total $172,925.52.
Q. And have you got the totals of meters in use and on hand during that period, can you state what number there were of ordinary meters?
A. In detail?
Q. Yes.

4383 A. The ordinary meters in use December 31st, 1904, were 286,566. December 31st, 1905, 296,981. Set locked in 1904, 27,104, in 1905, 27,746. In stock 1904, 1,968, 1905, 2,310. At repair shop 1904, 17,037, 1905, 19740. At factories 1904, 99; 1905, 609. Total 1904, 332,774; 1905, 347,386. Prepayment meters——

The MASTER: Mr. Burr, I do not see the force of putting all these details on the record here, as part of the witness' testimony, if you are going to offer these schedules and tabulations annexed to this report.
Mr. BURR: I think that is all I will ask him about that. All these items are detailed in the schedule as he has stated, annexed to his report.

Q. In arriving at the cost per thousand cubic feet for manufacturing and distributing the gas did you take into account the amount of the leakage?
A. Yes.

Q. Including the gas used by the company? By the way, what did you find to be the amount of gas used by the company?

A. 64,077,056 feet.

Q. What did you find the amount of leakage to be?

A. Inclusive of that amount, 300,990,555 cubic feet.

Q. Did you include that as a distribution charge at the average cost of manufacture?

A. Yes.

Q. And your method of entering the leakage differs from that adopted by the company, does it not?

A. It does.

Q. In what respect?

A. The company dealt with the quantity distributed and we deal with the quantity manufactured.

Q. They use as their divisor the quantity manufactured less the leakage?

A. Yes.

Q. While you adopt the quantity manufactured, is that right?

A. Yes.

4384 Q. And that adjustment amounts to how much per thousand cubic feet?

A. .73 cents.

Q. Now, what was your practice in this examination in cases where there was any doubt existing regarding the correctness of the company's allegation of its charges?

A. In all cases, we gave the company the benefit.

Q. Can you state a few of the items in which you pursued that course?

A. Yes. General office salaries and expenses, properly should be proportioned over the general work of the office in connection with sales of gas to consumers to construction work, and investments in other companies. It was not so treated.

Q. In other words that $99,807.42 you have taken and you have not charged any proportion of it to construction work or to revenue received from investments in other securities?

A. No portion.

Q. Has anything been charged to the revenue from street lighting contracts on account of general office expenses including distribution?

A. Nothing.

Q. The total of these expenses amounts to what?

A. Approximately $1,375,000.

Q. What is the proportion of gas sold for street lighting purposes?

A. Approximately 2 per cent. of the total.

Q. Is it not a fact that a number of doubtful charges in the repair account were conceded to the company?

A. Yes.

Q. All the expenditures in connection with the stove department have been admitted?

A. Yes.

Q. And what is your criticism, if any, with regard to that account

as it appears here on the books, why in your opinion was it doubtful, if it was so doubtful in your mind?

A. Which account?

Q. The expenditures in connection with the stove department.

4385 Mr. MATHEWSON: He has testified to that, stove repairs and how he offset the rents of stoves.

Q. You have allowed the total amount of bad and doubtful debts, haven't you?

A. Yes.

Q. Is that a doubtful account, in your opinion?

A. It is.

Q. Why?

A. Bad and doubtful debts are not a proper charge against the distribution of gas, especially when the company has a provision by which it can have a deposit.

Q. Do you mean especially where there is a provision of law which permits them to take a deposit from every consumer?

A. Yes.

Q. And do you consider the price of 52.50 cents as determined by you a liberal allowance under these circumstances?

Mr. MATHEWSON: I do not think that that sort of generalization is allowable.

Mr. BURR: He has stated what he did and what allowances he made with regard to doubtful accounts.

Mr. MATHEWSON: Whether or not it is liberal I think depends upon other circumstances.

The MASTER: I do not think that is of value, Mr. Burr.

Mr. BURR: In his experience as an accountant, and having in mind the various accounts he has adjusted, and what action he took in regard to these doubtful accounts, I think I am entitled to get at what was in his mind when he arrived at that conclusion, whether or not it was, in view of all those circumstances, a liberal allowance.

The MASTER: What deduction did he make?

4386 Mr. BURR: These deductions he has stated as having been doubtful.

The MASTER: Item 55, is it not?

Mr. MATHEWSON: Bad and doubtful debts, no, he allows that.

Mr. BURR: No, he says they have allowed that but he is strongly of the opinion it should not be allowed. Then with regard to these other items of repairs in the stove department, the manner in which they kept that account and the other items which he claims should properly have been charged to the construction account instead of against the repairs, they allowed——

The MASTER: I so understand, but what is the question about, what in his mind would be a liberal proportion?

Mr. BURR: No, I ask whether the amount he had allowed as the proper charge of gas under these circumstances is or is not a liberal allowance.

Mr. MATHEWSON: 52.50 cents, and he has testified how he arrived at it.

The MASTER: I will exclude it.
Mr. BURR: I withdraw it.

Q. Now, with regard to Exhibit 80, you have made up the details also of the sundry creditors, $3,357,037.95, have you not, Mr. Hall?
A. I have.
Q. And that appears as annexed to your report?
A. It does.

Mr. BURR: There is just that item on Exhibit 80, sundry creditors. He has made up a detailed statement of what the total embraces.

Q. Now, Mr. Hall, did you examine the real estate account? I think you have already stated that you made an examination
4387 of the real estate account. What did you do, how did you examine this account, what books did you refer to, or what were given you?
A. All the books of the companies merged as the Consolidated Company, November 11th, 1884, with the exception of those belonging to the Knickerbocker Gas Light Company and the Metropolitan Gas Light Company.
Q. Those you did not have?
A. No.
Q. You could not find the books, or the officers informed you, did they not, that the books were lost or mislaid?
A. Yes.
Q. And in the absence of these books the scope of your investigation was limited, was it not, necessarily?
A. It was.
Q. And did you therefore consult any other report with regard to this real estate?
A. Consulted the report made by Mr. J. Yalden, an accountant in New York City, made in 1885.
Q. And which is in evidence in this case?
A. It is.
Q. And what have you to say with regard to Yalden's account as the same affects the Metropolitan Company?
A. I have simply adopted Mr. Yalden's figures for the Metropolitan Company.
Q. What do you purport to show by this report?
A. The original cost with the buildings and improvements added of all the real estate acquired by the merged companies prior to November 11th, 1884, with the appreciation written up, also prior to that date and the appreciation written up on that date, the date of the consolidation; and I further show the additions and improvements made by the Consolidated Gas Company and the profit over the cost to them of the properties they sold.
Q. And what do you purport to show by the various Exhibits A to F inclusive, attached to your report?
4388 A. A to E inclusive, the real estate taken over by the Consolidated Gas Company by the various merged companies;

Exhibit F, the real estate acquired by the Consolidated Gas Company up to December 31st, 1905.

Q. Since November 11th, 1884?

A. Since November 11th, 1884.

Q. What did you find the original cost to be including additions and improvements, from such examination?

A. Up to December 31st, 1905?

Q. Yes.

A. Up to December 31st, 1905, $4,118,267.38.

Q. What did you find the original cost including building- and improvements to be, November 11th, 1884?

A. $3,377,971.10.

Q. So the original cost of additions and improvements from November 11th, 1884, to December 31st, 1905, appears to be $740,-296.28?

A. Yes.

Q. That makes up your total of $4,118,267.38?

A. It does.

Q. What appears to be from such examination the appreciation in the real estate account of the merged companies prior to November 11th, 1884?

A. $1,584,963.37.

Q. How is that divided among the constituent companies?

A. A credit of Manhattan Gas Light Company for depreciation, $21,706; a charge of New York Gas Light Company, $866,696.23; Metropolitan, $739,973.14.

Q. What did you find the amount of the appreciation on the transfer to the Consolidated on November 11th, 1884, to be?

A. $5,369,065.53.

Q. So, adding to the $3,377,971.10, the original cost of buildings and improvements, the appreciation less depreciation prior to November 11th, 1884, of $1,584,963.37, and the appreciation written up on transfer to Consolidated Company on November 11th, 1884, of $5,369,065.53, what do you find the book value to be of
4389 the real estate taken over at that time, November 11th, 1884?

A. $10,332,000.

Q. Now, adding to that $10,332,000 the additions and improvements to December 31st, 1905, less cost to the Consolidated Gas Company of property sold, $740,296.28, what do you make the total?

A. $11,072,296.28.

Q. Is there any item to be deducted from this?

A. Yes, profit over the cost to the Consolidated Companies of the properties sold $142,378.

Q. You have not deducted, I believe, any of the amounts awarded to the Consolidated Gas Company by the city for property taken by it in condemnation proceedings?

A. No.

Mr. MATHEWSON: Which has not been paid over you mean?

Mr. BURR: I think I remember of your speaking of that before.

Mr. MATHEWSON: Well, he has taken into account the moneys

which have — awarded in condemnation proceedings if they have been received by the company?

The WITNESS: Certainly.

Mr. BURR: But it claimed that you have not received this money.

Mr. MATHEWSON: No, no. You asked him whether he had deducted any amount received in condemnation proceedings, and he said no. I think there is a distinction. He has deducted the money received in condemnation proceedings where the money has been paid over.

The WITNESS: Where anything has been paid over.

Mr. MATHEWSON: But he has not deducted any amount
4390 awarded in condemnation proceedings where the company has not received it?

Mr. BURR: I guess there is no doubt of it.

Q. Whatever the company has received by the sale of real estate or the acquisition by anybody of its real estate since 1884, does it appear in this account?

A. To the end of 1905.

Q. Where does that appear? Where does the list of property transferred by the Consolidated Gas Company to any person appear?

A. Page 6.

Mr. BURR: I offer this report in evidence, all excepting Exhibit A, which is attached to the report, regarding Exhibit 94; such Exhibit A being minutes of the meetings of the several engineers and which I do not claim forms part of this report.

Mr. MATHEWSON: I object to the report as evidence. The witness has testified to certain deductions which he has made and to the details of them so far as he has been asked, and he has stated that certain schedules here showed the details. If there is any offer it seems to me it should be of those schedules. But this has an immense amount of details with reference to which there is no dispute at all. It has general observations and statements here and arguments that the witness has deduced. I cannot cross-examine the witness on that book, I confess, Mr. Master, without a considerable interim, if it is accepted. Has the Master looked at this?

The MASTER: Yes, I have glanced it over. Undoubtedly there is a large portion of this or some portion of it that is inadmissible. All these statements in the report itself as to conclusions arrived
4391 at by the Advisory Board, I understand Mr. Burr does not claim are evidence.

Mr. BURR: That I will make a matter of subsequent examination of these engineers.

The MASTER: The exhibit which constitutes the minutes of that Board are not offered, but in the body of the report itself are several references to conclusions arrived at by the Board which are equally objectionable. And I do not suppose either that any data assumed by the witness from the report of Mr. Yalden some years ago are evidence. But on the whole, Mr. Mathewson, I think, for the purpose of convenience, this report had better be received, and the schedules annexed to it also, as a summary statement of the results of the wit-

ness' examination of the books. Of course in so far as the report contains references to the Advisory Board, that will be deemed to be excluded just the same as the exhibits are which contain their minutes.

Mr. BURR: Yes, I will depend not upon his allusions to those reports or to the action of the engineers in such reports, but upon the testimony of these engineers themselves whom I will call to testify.

Mr. MATHEWSON: It seems to me there is something else to be considered here which has not been suggested. You will see by turning to page 3 of the report, how narrow is the scope of the items objected to. Now, is it worth while to put in this vast amount of detail which has no relation to those items at all upon items as to which there is no dispute, and is it fair to us to virtually spread upon the records of the Court the details of our business which we have thrown open to him and which the witness has verified and
4392 the items of which he says are all right, like the costs of meters, and everything of that sort?

The MASTER: I have assumed, without looking at this report carefully, that these schedules here have reference simply to the items as to which the witness has testified he made a different calculation.

Mr. MATHEWSON: Not at all.

Mr. BURR: Oh, yes.

The MASTER: And I noticed, in one or two cases, that he had, for the purpose of convenience, reproduced exhibits already in evidence, as for example, Exhibit 94, and the agency agreement; they are also in evidence, are they not?

Mr. BURR: Yes.

The MASTER: But I assumed that was merely for the purpose of convenience, and did not make any particular difference. If, however, it is the fact that there are included in these schedules a great many items that have no bearing on these specified differences set forth on page 3 of the report, that is a different question. I will have to look at it and see.

Mr. BURR: There is no such thing as that. The object of putting in this information is so that the Court might have before it all the figures which justified the conclusions which they have arrived at in their report, and the comments which they make with regard to the keeping of these various accounts and to justify their statements that in many respects the accounts which they have allowed are, to say the least, very doubtful.

Mr. MATHEWSON: Take item 52, tools and implements.
4393 No objection is made to that. Here it appears in the schedule showing it in detail.

Mr. BURR: It is impossible in a work of this kind to say "leave out this and leave out that." They were called upon to examine the books here and they have made a comprehensive and intelligent report and have given their figures to justify the conclusions at which they have arrived. I cannot castrate this report and take out of it all that is in my opinion immaterial to it and at the same time expect the Court to value it as a continuous and intelligent report.

This is done for the benefit of the Court and for the information of the Court.

Mr. MATHEWSON: Item 45, page 14, there is no objection to item 45, and we have at page 14 and page 15 a page or two showing details of wages paid and all that which if our friends and our employees get hold of it in their unions and figure up, we will have a strike on our hands among other things.

Mr. BURR: They cannot figure up the totals there. We are not giving the rates.

Mr. MATHEWSON: And on page 15 you will see, respecting which no objection is made——

Mr. BURR: We have endeavored to give you a fair report, giving you credit where credit is due and criticising where criticism is due. I think it will so appeal to the Court.

Mr. MATHEWSON: But that is not the point. There are many items in here as to which there is no objection.

Mr. BURR: How can it hurt you, then?

Mr. MATHEWSON: Yes, it can hurt us. We do not want to virtually spread the transcript of our books upon the public record, nor does any other company, especially so in regard to an item that no objection is made to. It is idle.

4394 The MASTER: There is force in that. It will be necessary to go through this Exhibit and weed it out.

Mr. BURR: There is not anything there which is not necessary to the report itself and to the full understanding of it.

The MASTER: I assumed in what I said before in regard to these schedules that they were all like this item No. 49 where the witness has set out here in great detail as Exhibit D the details or the particulars of the payroll tickets, showing the way he made up the modification of the company's figures in Exhibit No. 94. I do not know that they are of any great value to me; but as a voucher for the correctness of the witness' conclusions, they are properly part of his testimony.

Mr. BURR: Yes.

The MASTER: And I assumed that all these exhibits or schedules were of the same kind. Now if it is a fact that there is a lot of material here that has reference to items that this expert witness has not seen fit to make any change in, I do not think they ought to be received. If they are not of enough importance to make a change in, why speak of them at all?

Mr. BURR: I think it is due to him to permit him to say what accounts he deemed doubtful.

The MASTER: He has said so and stated here.

Mr. BURR: And the reasons why he allowed them. It cannot do any harm to the company. They seem to have a particular aversion to having anything spread upon this record in regard to their books, and we know the fight we had to get this examination, and now we have got it and now we are giving them all the information our accountants obtained from this examination. And you find

4395 upon Mr. Mathewson's cross-examination there will not be anything superfluous. I presume that is the reason this

gentleman, who is a competent and careful accountant, has come fully buttressed with schedules attached to his report to justify his findings.

The MASTER: I will exclude all the schedules that do not have reference to the disputed items. If he wants to have the material for use on cross-examination, well and good, but I will exclude it as evidence. It will be necessary to go through this and weed out exactly what is admitted and what is not. You did not offer the minutes of the Advisory Board?

Mr. BURR: No.

The MASTER: I will treat those in the same way; these schedules that do not have reference to the disputed items, if such there be, ought to go out.

Mr. BURR: Then you strike out all the schedules with regard to which this witness has commented and claimed that they were doubtful?

The MASTER: Well, I don't know as to that; some of them he has changed or pointed out discrepancies in, some accounts that he claims were doubtful, I think.

Mr. BURR: I do not see, without butchering this report, how you are going to do that or rule out any portion of it.

The MASTER: You will have to butcher the report——

Mr. BURR: Particularly when it is conceded it cannot do them any harm.

The MASTER: If admitted at all, it is only for convenience. You cannot expect that a private report of a firm of accountants addressed to the attorneys who employed them is evidence against the
4396 opposite party.

Mr. BURR: Not unless it can be proved and justified to be correct, that is what we are here for.

The MASTER: You can call the witness and have him justify the figures and prove them correct, but the private report to his employer cannot be made evidence against the other side unless it is competent.

Mr. BURR: Not unless it is competent as your Honor has well said, but I claim that all he has attached to his report is competent, because they justify the conclusions at which he has arrived, and I offer it, and if you consider there is anything that is objectionable and should not be put in, I will take an exception; but I understand the balance is received as an exhibit.

The MASTER: If he simply picks up an item and says, "I have allowed this, but at the same time I have grave doubts about it," I do not see that it is material and relevant, if the other side objects to it, to receive here a vast quantity of tabulation showing the reason for the witness' doubt on the subject.

Mr. MATHEWSON: There are large numbers of these respecting which he has made no doubt. You see he takes the items, whether he is in doubt or not and puts in tabulations respecting them and he states what he finds as to the Massachusetts Gas and Electric Light Commissioners' doings and things like that in this report.

The MASTER: Of course I may think differently about this after

I have gone through this carefully myself, but simply glancing at it here, that is my disposition about it.

4397 Mr. KIRBY: There is another point in regard to the admission to the entire report and that is this: That while there may be certain items in Exhibit 94 which the accountants have found to be correct so far as the additions of the accounts going to make it up are concerned, that nevertheless, the schedules, the detailed schedules which he has given, give us the opportunity, and give the engineers the opportunity to make comparison with testimony which is already upon the record, and with testimony which may hereafter be placed upon the record as to whether or not such charges for material, or labor, or for anything else, are correct and proper; and for that reason it is certainly relevant to this case.

Mr. MATHEWSON: We cannot assume that you intend to rebut the syndicate conclusions of this witness and of Messrs. Marks and Lacombe and Edgerton, the so-called Board of Engineers who have collaborated in getting this up, as I judge. I do not think it is fair to assume that, Mr. Kirby.

Mr. KIRBY: That has nothing whatever to do with the position which I am taking.

Mr. BURR: I think I have made myself clear as to the reasons.

The MASTER: I understand the reason so far as the suggestion of Mr. Kirby is concerned, is one of convenience merely, it is not one of evidential force. No doubt it would be very convenient to have all this in its present form, but it is a question of whether, against objection, it is evidence in the suit.

Mr. KIRBY: No, it is not merely a matter of convenience. It is a question of this, that anything and everything which goes to

4398 make up any item in any exhibit should be in evidence here, the same as the exhibit itself, whether those items are held to be correct or incorrect.

Mr. BURR: The reason I press my offer of this report in evidence is because I contend there is nothing attached to that report which is not necessary to a full understanding and appreciation of it and which is not properly a part of it.

The MASTER: You can point out which particular ones of these schedules you specially object to, Mr. Mathewson: and then I will pass upon them.

Mr. MATHEWSON: Then I will have to have an opportunity to go through them.

The MASTER: Yes.

Mr. BURR: It is received in evidence subject to the objection of Mr. Mathewson to certain schedules attached to it; is that the way it stands?

Mr. MATHEWSON: Why that? Why not let me look over them in the first instance?

The MASTER: Either mark it for identification or else do it that way. I am going to receive the substance of it, I mean the detailed schedules that support the witness' testimony as to his rejected or modified items. If there is anything else here that is not material, I will exclude it and you can have it separate. As far as the report

itself goes, in my glancing over it I do not see anything here except some few references to this Advisory Board and their conclusions but what might properly be received, in my judgment, as a summary of the witness' examination of the books.

Mr. MATHEWSON: Is it competent for the witness in this
4399 report to testify what the Massachusetts Electric Light Companies allow per meter for repairs and things of that sort?

The MASTER: That is what I had reference to. I saw that. That is clearly incompetent, of course

Mr. BURR: That is the reason for the action of the advisory engineers with regard to a certain item, and they will explain the reason for making that comparison. This report is to be taken in connection with the promised testimony of the advisory engineers with regard to items which are therein referred to as having been passed upon by that Board, and of course such statements are received subject to being stricken out if I do not call those witnesses.

The MASTER: It is to be regretted that this was not prepared, all this material here, in a different shape so it could be properly offered in the usual way.

Mr. BURR: We regard as part of this offer the testimony of the engineers. Their testimony and this report makes a complete whole as to what we undertook to do, that is, to examine these books for the year 1905, so far as those books should be examined in connection with Exhibit 94.

Mr. MATHEWSON: Professor Bemis, in his testimony, testified as to certain computations and then presented the schedule which was attached to that at the time, and not a mass of testimony with it. In other words, he testified and then merely submitted the table to show the details. It seems to me that is—where is Exhibit E, may I ask?

The WITNESS: I do not think you will find it there, that is incomplete.

4400 Mr. BURR: Here, I will let you look at this copy.

Mr. MATHEWSON: Here is Exhibit E, items 1 to 33. The Committee says and the witness testified at the outset that he found those vouchers correct, and the company's figures correct. Items 1 to 33, about half the items. Now, schedules are presented here known as schedule E No. 1, schedule E No. 2, and Nos. 3, 4 and 5, and the Master will see—I have them here, I do not know that they are in your copy—but they appear later, all these schedules in reference to those items going into detail, almost without limit I was going to say, all those pages on that subject, spreading out in great detail these things which are found to be correct and respecting which there is no question on anybody's part. I ask, is it fair to us to spread all that detail out in addition to its being unnecessary and immaterial? The witness accepts the items.

Mr. BURR: All those statements were necessary to enable the engineers to pass intelligently upon the propositions that were presented to them by the accountants.

The MASTER: Then it will come in as part of their testimony.

Mr. BURR: Then there cannot be any harm done.

Mr. MATHEWSON: But they have admitted them.

Mr. BURR: They needed those for comparison and could not go blindfolded as you expect possibly. There is nothing here which is superfluous; it is a plain straightforward account and the figures are presented to justify the conclusions which have been
4401 arrived at. We have not skimped anything but have given you the benefit of the full examination which we have made. And I do not see that the objection that this information should not go on this record is a tenable one at all. It cannot do them any harm according to their own admission, and it is necessary for us for the purposes of having this account fully understood. This is not a sacred organization or an eleemosynary institution, and the results should be known.

Mr. MATHEWSON: But our company has the same right as any other company or corporation. We do not claim any sacredness, but we claim we are as good as other people. I would like to have the Master look at Schedule E.

The MASTER: I saw them, but of course if excluded they have got to be printed, Mr. Mathewson. What I am considering is the best way of getting at this. There is no question to my mind about the propriety of excluding them. There are several matters in this report and the only question is whether it might not be better for the purposes of convenience to take the report in the form it is offered rather than confine the actual exhibit, as marked, to the schedules referred to by the witness in his testimony this morning. If we do that, it will be necesary to cut this report up and give each one of these schedules a separate number without reference to the report.

Mr. MATHEWSON: Well, I think if I may be permitted to say so, that it is a shame, when we give the accountants the opportunity as they have had there and when they go through these items and confirm our manufacturing records, the first thirty-three items, half of all of them, as an expenditure of $4,000,000, that for pur-
4402 poses of curiosity of somebody it should be insisted upon spreading upon the record here, which will be a public record and accessible to everybody in the world, the details of that business which has been found to be correct and to which no objection has been made. I say it is not right, and it is not treating us fairly. It is something that any corporation, no matter what it is engaged in, would object to most strenuously. And when we say we have no objections, of course, we could not object where items are objected, to the details going in, I think we have gone as far as we ought to go. I do not think it is right. I do not think it is right for the other side to insist upon presenting those details in this public fashion. We might just as well file our books in court. We are entitled to the same fair treatment as any other corporation engaged in an industrial business, certainly as to those items where no question is raised. I am sure that our officers and our directors will feel most keenly the spreading on the record here of details which have no earthly relation to items respecting which there is any objection at all.

Mr. BURR: That is your view of it, that they have no relation. I

say they are very important and pertinent to this report. Of course you view with alarm and consider it a shame that there should be any information obtained from your books at all, and you have objected to the spreading on this record of your coke and oil and coal contracts, and we have accommodated you to some extent, and now you do not want anything to appear on the record regarding this examination which we had to fight tooth and nail for.

4403 Mr. MATHEWSON: Nonsense, we gave you the examination. We have given you everything and have allowed thirty or forty men there for five or six weeks appropriating anything and everything they wanted to in the office. Now, you want to spread on the record the details of items respecting which there is no dispute at all. I say it is not right, it is not fair, and it is not decent treatment.

Mr. BURR: I need only say in that connection that this is not a private firm or corporation, it is a public utility corporation in which the City of New York has a large interest.

Mr. MATHEWSON: And any item which is questioned, you are putting the details in here without any objection on our part.

The MASTER: What else is there besides this Exhibit E to which that same thing is applicable.

Mr. MATHEWSON: I do not know, Mr. Master. I could not tell without looking through this. It is perfectly obvious it contains an immense amount that the witness has not testified respecting, but just what it is I cannot tell without looking through it. Now here is something——

The MASTER: It seems a pity to waste time considering this matter if there is anything else that can be done. If you can go on and cross-examine, I will look at this.

Mr. MATHEWSON: I can go on and cross-examine all right. But it is now after 1 o'clock.

The MASTER: I will look over this report. I find in it more than I had supposed that is open to objection. We will take a recess now.

Recess till 2:30 P. M.

4404 After Recess.

The MASTER: After looking over this report, I have decided that I shall, for the purposes of conveniences, admit it in its present form, exclusive of the schedule Exhibit A which Mr. Burr excluded from his offer, and excluding, also, the various tabulations Exhibit E. In excluding Exhibit E I do so without prejudice to it being offered and received later in the course of the examination of any other witnesses to whose testimony it may be pertinent and material.

In receiving the report in its present form it is to be understood that there should be deemed excluded therefrom, so far as purposes of evidence go, all statements of action taken by the so-called Board of Advisory Engineers. It is proper to have it stated, of course, that the witness made certain disposition of certain items in accordance with instructions received by him from the Advisory Board of Engineers and in so far as concerns such statements the report is

proper, but there should be excluded from it all abridgements or extracts from proceedings of that Board. And also, in making the foregoing disposition of the matter, it would necessarily exclude from the report the statement of the witness in the report as to his reason for annexing the Schedule E, which has been excluded. Now, with these limitations the report is received as being a summary of the results of the work that the expert accountant has been called to testify to, as the result of his examination of the books.

Mr. BURR: As the Master said, I have not offered the minutes of the Board of Advisory Engineers. Regarding the exclu-
4405 sion of any other part of this report, whether the same be in the body of the report or in the schedules annexed thereto, you will give me the benefit of an exception.

The MASTER: In giving it to the Stenographer for printing you eliminate Exhibit A and you also eliminate the other exhibits, Schedule E, and those can be offered later in connection with the testimony of other witnesses, if you desire.

Mr. BURR: But I understood that under the rule even if the whole thing is excluded it will be printed.

The MASTER: If you wish to do it that way.

Mr. BURR: So as to make it a complete whole I will have it printed except that Exhibit A, and ask the Stenographer merely to note that Exhibit A is the record of the minutes of the Board of Advisory Engineers and is not offered in evidence, but with regard to all other parts, I shall ask to have it printed and then I shall again renew my offer later in this hearing, after I think I have supplied what in your Honor's mind may be lacking now with regard to those other schedules.

Mr. MATHEWSON: I except.

Mr. BURR: And the schedules which you have excluded by your ruling now I ask to have marked for identification so that they may have a specific number for that purpose.

Mr. MATHEWSON: Is it necessary so long as the whole thing is to be printed to have them marked for identification? You can offer them subsequently.

Mr. BURR: I think that suggestion is a good one. If I overcome the objection the Master has now they will be received.

Mr. MATHEWSON: I except to the admission of this report
4406 except so far as it relates to the schedules and tabulations respecting the items which the witness has excluded in his computations from the operating cost of gas. Will the Master permit that exception?

The MASTER: I understood I had already excluded those Schedules E, which were the ones to which your objection was chiefly directed.

Mr. MATHEWSON: I think there were some shorter schedules in the body of the report, or tabulations perhaps rather than schedules, and my objection relates to those as well as to the schedules to which you particularly refer.

The MASTER: It is hardly worth while to chop the report up in those small particulars, as I am receiving it mainly for the purposes of convenience anyway. You can take an exception to it.

Mr. MATHEWSON: I understand that so far as probative force is concerned I shall waive no rights upon preceding examining upon points which this witness has not been examined upon.

The MASTER: No.

Mr. KIRBY: Exception to the ruling excluding such parts of the report as were offered.

Received in evidence and marked City's Exhibit 87.

JAMES HALL resumes the stand and further testifies.

Direct-examination continued by Mr. BURR:

Q. In that 52.50 cents was there any allowance made for depreciation?

A. Yes.

Q. How much?

A. $222,382.82, equal to 1.71 cents per thousand feet.

Q. Well, deducting that allowance for depreciation, what
4407 do you make the cost per thousand cubic feet?

A. 50.79 cents.

Q. Was there any allowance for renewals?

(Question withdrawn.)

Q. Was that $1.71 cents actually spent?

A. No.

Q. What did you find with regard to that from the books of the company?

A. Depreciation.

Q. In which account did you find that?

A. Depreciation account.

Q. Calling your particular attention to Item 67, Contingent expenses, $1,328,316.37, or ten cents per thousand cubic feet of gas sold, how was that entered in the books of the company?

A. Charged to contingent expenses, credited to reserve account, called Renewal and Contingency Account.

Q. Was that a natural expenditure or was it a bookkeeping entry?

A. Bookkeeping entry.

Q. Was the other a natural expenditure or was it a bookkeeping entry?

A. A bookkeeping entry.

Q. How about 1903 and 1904, bookkeeping or actual?

A. So far as I could observe from trial balances, bookkeeping entries.

Q. At the close of 1905 how much was debited to this reserve account?

A. $282,219.67.

Q. Did that represent any actual expenditure?

A. No.

Q. What was it?

A. Depreciation on certain plant accounts detailed here; plants, services, mains, meters, etc.

Q. Do you know whether that was entered in the form in which

you found it as the result of any official action on the part of the company?

A. Yes; a resolution of the directors and officers of the company.

Q. The resolution appears entered upon the books of the company?

A. Yes.

Q. In connection with that account?

A. Yes.

4408 Q. Have you made that resolution a part of your report as it appears upon page 34?

A. I have.

Q. And this amount of $282,219.67 which was the subject of that resolution as you have testified, is the amount which appears in Exhibit L on page 418 of exhibits under the head of "Renewals, Total, 1905"?

A. Yes.

Q. And that amount did not represent an actual expenditure?

A. It did not.

Q. What did you do, Mr. Hall, a little more particularly, with regard to leakage?

A. I took the leakage as taken from the company's books as a charge against the distribution of gas.

Q. And as to the item of taxes, what disposition in detail did you make of that?

A. On page 33——

Q. In your report you have shown on page 33 the disposition which you made with regard to the item in detail?

A. Yes, sir.

Q. Is there anything that you desire to add to what you have written here in this report, with regard to that item, or does that fully explain the disposition which you made of that item of taxes, and the reasons therefor?

A. That fully explains.

Q. And does the same apply to the item of lamp repairs and have you in your report fully explained your reason for your disposition of that item?

A. I have.

Q. Now, in connection with your elimination of the ten per cent. paid by the Consolidated to the subsidiary companies, did you make any effort to find out what was the proportionate depreciation and taxes of the subsidiary companies applicable to the gas supplied to the Consolidated?

A. I did.

Q. And what success did you meet with?

A. I was refused any detail in connection therewith.

Q. By whom?

A. Mr. Carter.

Q. Can you give the leakage by months?

A. No.

4409 Q. How did you arrive at the leakage?

A. Detailed in Exhibit B.

Q. That fully appears in Exhibit B, does it?

A. Yes, sir; commencing with the balance on hand according to the company's record, January 1st, 1905, added to the quantities manufactured, the quantities purchased; deducted quantities sold to consumers, street lamps and other companies, took into account the stock at the end, and the balance was the leakage, including the gas used by the companies themselves.

Q. I notice in this exhibit to which you are referring, Exhibit B, there are certain entries in red ink and certain entries in blue ink. What do those represent or why have you put them in those colored inks?

A. The green ink represents the total manufactured——

Q. Is that green ink or blue?

A. Green—the total manufactured and total purchases. It is to show as a matter of convenience the totals under each classification. The red ink at the end, it would appear from that that the gas had been overdelivered; they delivered more gas than they had ever made.

Q. To what extent?

A. To the extent of that 117,000,000 feet plus the unmetred gas at the end of that month.

Q. Will you give us the figures showing that from this exhibit?

A. At the end of June they appeared to have over-delivered 117,461,270 cubic feet.

Mr. MATHEWSON: Where is that?

The WITNESS: Exhibit B. And at the end of July, 197,808,540 cubic feet; at the end of August, 94,143,629 cubic feet; at the end of September, 36,371,207 cubic feet; and it appears they got back with a balance on hand at the end of October and succeeding months.

4410

Q. Does this amount 52.50 cents include any allowance for the Consolidated plant, for the use of the plant?

Mr. MATHEWSON: You mean any return on capital?

Mr. BURR: Yes.

A. No.

Q. Referring to your analysis of the item "sundry creditors" $3,357,037.95, will you point out where that appears in Exhibit 80?

A. Accounts payable, under accrued charges, $3,281,711.52, and again accounts payable, under accrued charges, balance, $75,326.43.

Cross-examination by Mr. MATHEWSON:

Q. What is your age, Mr. Hall?

A. Twenty-nine.

Q. How long did you say you had been in the accounting business?

A. Between thirteen and fourteen years.

Q. Are you a chartered accountant?

A. I am.

Q. How long have you been such?

A. Six years.

Q. How long have you been in America?
A. A year.
Q. Have you been with Marwick, Mitchell & Company all that time?
A. Yes, sir.
Q. Have you ever been in the business of manufacturing and distributing gas?
A. Never did anything else except accounting.
Q. Are you an engineer?
A. No.
Q. Have you ever examined the accounts of any gas company for the purpose of determining the cost of gas before you examined the Chicago companies?
A. Not for that purpose.

4411 By Mr. BURR:

Q. You mean you have, but not for that purpose?
A. Not for that purpose, yes.

By Mr. MATHEWSON:

Q. Did you have any Board of Advisory Engineers in Chicago when you made your examination there?
A. No.
Q. Have you ever kept the accounts of any gas company?
A. No.
Q. I see in the letter of January 22, 1906, to the Hon. Lynn H. Young, Chairman of the Committee of Gas, Oil and Electric Light of the Common Council of the City of Chicago, you stated—or Marwick, Mitchell & Company stated:

'No allowances however included in either statements'" (referring to your statements), for the wear and tear which is generally conceded to occur in excess of that which is covered by renewals."

What did you mean by the wear and tear that is generally conceded to occur in excess of that which is covered by renewals?
A. Depreciation.
Q. So that as an accountant you would agree with Mr. Yalden that there must be a certain allowance for depreciation beyond the actual expenditures for current renewals, would you not?
A. On certain items.
Q. Well, to a greater or less extent according to the character of the plant with which you are dealing?
A. Yes.
Q. And as an accountant do you take into consideration the fact that not only is machinery being deteriorated by wear and tear but that it is from time to time superseded and put out of use in favor of newer machinery?
A. Sometimes.

4412 Q. And that also is an element which must be taken into account, is it not?
A. To a certain extent.
Q. But so far as you are concerned you have never been, as I un-

derstand, in any gas business, so that you know by experience how much should be allowed in a gas business——

A. Will you repeat that.

Q. (Continuing:) for——

The MASTER: He has already said that, Mr. Mathewson.

Mr. MATHEWSON: Then I shall not repeat it.

Q. In Chicago then you proceeded on your own responsibility without the advise of engineers, did you?

A. Yes.

Q. Now, I find at page 3 of the report, City's Exhibit 87, you summarized the items which you have excluded from the operating cost of gas or from the total operating and fixed charges which amount to 74.81 cents according to Exhibit 94 is that right?

A. Yes.

Q. And your total is 22.31 cents?

A. Yes.

Q. Now, of those deducted items of 22.31 cents, how much is made up of contingencies, interest on funded debt and cost of street lamps?

A. 17.79 cents.

Q. So that outside of those three items of contingencies, interest on funded debt, and cost of street lamps, being respectively 8.29 cents, 7.32 cents and 2.18 cents, how much do the other items which you have excluded amount to?

A. 4.54 cents.

Q. With reference to the station cost of the gas made by the Consolidated Gas Company, Items 1 to 33 inclusive of Exhibit 94, showing, "Net amount of Material and Labor, $3,101,832.24, you
4413 have excluded nothing, but have divided by what divisor in reaching your cents per thousand?

A. The quantity manufactured, 10,657,810,000 cubic feet.

Q. Is that corrected to a standard temperature of 60 degrees, or is is the uncorrected?

A. Corrected.

Q. All corrected, is it?

A. Yes.

Q. And do I understand that in the total of gas made you include the gas which has been used by the Consolidated Gas Company itself in lighting its own plant, and so forth?

A. Certainly.

Q. In that event you must introduce subsequently an item on the other side for gas received?

A. I do.

Q. So that as a matter of fact if your computation is correct and the computation of the company is correct upon its theory, there would be no practical difference in the end, would there?

A. Nothing serious.

Q. Do you know how the 29.10 cents in Exhibit 94 is reached opposite, "Net Amount of Material and Labor"?

A. Yes.

Q. What is the divisor in that case?

A. The quantity manufactured.

Q. The same thing that you have used?

A. Yes.

Q. Then there is no difference between you and the Company up to that point?

A. With this exception they do not carry the calculations down to the end, to the finish, on that basis they stop short there.

Q. On what?

A. They stop short on that point.

Q. Well, I am talking as to the items down to Number 33, "Net Amount of Material and Labor."

A. We agree there.

Q. And you understand that this litigation deals with what we may charge consumers for gas?

A. Yes.

4414 Q. Which is delivered to the consumers?

A. Yes.

Q. In other words, that our calculations have to be made on the number of thousand feet of sales?

A. Not in the case of manufacture.

Q. Well, we do not obtain anything from the consumer for the amount manufactured unless we deliver it to him? You understand that?

A. I understand that, but you——

Q. Now, if you divide the expenditure down to item 33, to wit, $3,101,832.24 by the amount of gas manufactured by the Consolidated, less the item of leakage, which means the amount which reaches the consumer's meters, you would obtain the 29.77 cents which the company expends, would you not?

A. Yes.

Q. Now, Item 34, repairs to apparatus $169,197.39, you allow in the cost of gas, less $2,133.98?

A. Yes.

Q. That latter amount is excluded on what theory?

A. On the theory that the amount going to make it up is properly chargeable to construction, not to operation.

Q. Will you point out in this report the details of that small sum?

A. Schedule 2 to Exhibit D.

Q. Did you exclude these on your own initiative or upon instructions from the three engineers whom you have mentioned, or some of them?

A. On the advice of the three engineers.

Q. The vouchers that you examined indicated that these expenditures had been made, did they not?

A. Oh, certainly.

Q. And in fact as to all the items in Exhibit 94, they appeared to be correct according to the books and records of the company, do they not, and your exceptions were only to their application to operating cost or otherwise?

A. That is so.

4415 By Mr. BURR:

Q. That was not true of renewals?

A. Renewals is simply a book entry.

By Mr. MATHEWSON:

Q. How much do you say this $2,133.98 amounted to in cents per thousand?

A. .02 of a cent.

Q. Now, on Exhibit 94, Item 34, repairs to apparatus in total appears to have been carried in the cost per thousand of gas made at 1.59 cents and in the cost per thousand sold as 1.62 cents. Now, when you say that you deducted .05 of a cent, you mean, do you not, that you deducted .05 of a cent from the 1.62 cents to reach your 1.57 cents?

A. I do.

Q. But dividing by the gas made you would get an amount only .02 of a cent lower than the 1.59?

A. Yes.

Q. And presumably if you had divided by the amount of gas sold you would have gotten 1.60 cents instead of 1.62 cents for that item?

A. Yes.

Q. So that on this item No. 34, of repairs to apparatus, there is only a difference of about .02 of a cent, whether you count it on gas made or gas sold, as between you and the Consolidated Company's computation?

A. Yes.

Q. Now, on Item 35, repairs to buildings, $24,900.69, you have excluded, as I understand it, only $88.50?

A. Yes.

Q. This is also on the theory that that might be applicable to construction?

A. Yes.

Q. That is so small that you could hardly indicate in cents per thousands?

A. Not very well.

Q. Where are the items of that $88.50?

A. Schedule 3 of Exhibit D.

Q. The next item which you have excluded, or any part of
4416 it, is item 43, Cost of Gas Manufacture, under agency agreement, $997,039.89, which appears in Exhibit 94 as 34.01 cents per thousand of gas made and 34.82 cents of gas sold. You state you eliminated the ten per cent. profit on the gas manufactured by the companies under the agency agreements?

A. Yes.

Q. What do you mean by profit in that connection?

A. The 10 per cent. represents profit, including a certain allowance for depreciation and taxes.

Q. You do not mean to indicate that it would be profitable for the company to sell gas at the cost of labor and material, plus three cents, from your investigation of the books of gas companies, do you?

A. I don't indicate that.

Q. Now, will you indicate to me how you reached that?

A. The ten per cent. is simply an arbitrary charge. You are allowing profit. The purpose of this examination is to determine the cost of manufacturing gas.

Q. The purpose of this suit, you know, is to determine what we are entitled to charge consumers for the gas which we sell?

A. Yes.

Q. Now, will you indicate how you reached your 29.14 cents as the cost to the other companies under the agency agreement after deducting ten per cent. and five per cent. on the New Amsterdam construction? Where is that indicated?

A. Schedule 4 to Exhibit D.

Q. In Exhibit D, Schedule 4, I find a column headed, "Manufacturing Cost Plus 10 per cent." Who is responsible for the term "manufacturing costs"?

A. It so states in the agreement.

Q. It states what the Consolidated Gas Company shall pay?

A. As the manufacturing cost.

Q. You find that headed in the books of the company material and labor used to manufacture, do you not, or rather in the statements of the company?

4417 A. I don't recollect what the statement was, but the agreement states manufacturing cost, does it not?

Q. The agreements state, do they not, material and labor plus 10 per cent. as the price which the Consolidated Gas Company shall pay?

A. No, I think it is manufacturing cost.

Q. Don't you remember whether the amount paid by the Consolidated Company under these agreements is to be the material and labor plus 10 per cent. additional?

A. It states here cost of gas materials used and labor furnished in manufacturing gas, together with the so-called station repairs.

Q. Precisely. Do you mean to say the material and labor is the total cost of manufacturing gas?

A. Plus the station repairs.

Q. Have you got in any station repairs?

A. It states so in the agreement.

Q. Have you got in any station expense beyond the station repairs.

A. Exactly what is in it I don't know. Permission was refused, I was not allowed to examine it.

Q. One moment. Don't go into that. Have you got anything in there or is there anything included so far as you have observed, except material and labor and repairs?

A. I have not observed anything. I have not seen the details.

Q. You know, do you not, that there are additional expenses in the manufacture of gas known as station expenses?

A. There are very small expenses under that head.

Q. And you know there are distribution expenses at the station, do you not?

A. They do not enter into the manufacturing cost for this purpose.

Q. Do not the distributing expenses at the station enter into the station cost of gas?

A. No, I do not think so.

4418 Q. Won't you look at Exhibit 94 and see if there is not a distribution item 38, $31,855.34 that enters into the station cost of gas as you have computed it?

A. There is a very small fraction there.

Q. You do not understand that this item which you call manufacturing cost includes any taxes or insurance at the station, do you?

A. I admit it does not include taxes.

Q. Or insurance?

A. I cannot say whether it does or not. It may. As I state, we have not been afforded access to the detailed statement.

By Mr. BURR:

Q. Do you mean it may or it does?

A. It may or it may not.

By Mr. MATHEWSON:

Q. Is it your information that it does?

A. I have no information on the subject.

Q. Did not Mr. Carter show to your representative in his room a statement from these companies showing the details of the cost at which the gas was delivered to the Consolidated Company?

A. He held a statement out and said it is none of your business what is in it.

Q. He did not show you——

A. He simply held it up before me and would not let me take a copy.

Q. Was it not compared in detail to show whether the total corresponded with the items?

A. The total might have been compared but there was no information taken from it. We were not allowed to take it.

Q. Did not Mr. Carter tell you that he would not let you take that paper away, but that you could compare it there to your heart's content?

A. No, he would not allow us to take a copy.

4419 Q. You did compare it so that you found the total amount represented the sum of the various items, didn't you?

A. The total did, but what was in the total we did not know.

Q. Did not you see what the various items related to when you took the total?

A. No.

Q. Did you yourself examine it for that purpose?

A. No.

Q. Do you know why your representative who did examine it did not take such details as he pleased from it?

A. He was not allowed to.

Q. That is your information?

A. Yes. The message came back it was none of our business what the composition of it was.

By Mr. BURR:

Q. Who examined that?

A. One of my assistants, Mr. Murtha.

By Mr. MATHEWSON:

Q. In getting the 29.14 cents, how much was taken off representing the 10 per cent., how much representing the interest on the construction of the New Amsterdam Company?

A. Interest 10 per cent. $85,445.96.

Q. How did you get that?

A. It was the amount shown in their books.

Q. Shown on the books of the Consolidated Company?

A. Yes.

Q. Did it show as the 10 per cent. on their books or did you divide and get the 10 per cent. or multiply?

A. It showed as the 10 per cent.

Q. When you compare the cost of gas to the Consolidated Gas Company and the cost of gas manufactured by these other companies under agency agreements, in order to make a just comparison you must know exactly what items were included in it, must you not?

A. It would be better.

4420 Q. And you do know, do you not, from Exhibit 94, from your information that some items of expenditure which were included in the Consolidated cost of 32.42 cents at station on gas made are not included in the cost of 29.14 as you have computed it to the subsidiary companies?

A. No, I do not know that.

Q. Don't you know that there are no distribution costs at the station included in the 29.14 cents?

A. Not except your statement.

Q. In other words, you do not know whether they include the same items or not?

A. That is so.

Q. If the Consolidated cannot manufacture all the gas which it delivers and obtains a large portion of its gas from other companies and it becomes necessary to determine how much the Consolidated Gas Company is entitled to charge to consumers for all its gas, you must take into account, must you not, the entire amount which it has to pay to acquire the gas which it does not itself manufacture?

A. No.

Q. You do not think that makes any difference?

A. They are only entitled to take what it costs the subsidiary companies for this purpose.

Q. Well, but do you include then the capital of what you call the subsidiary companies, that is, the companies under the agency agreement, in determining what the capital of the Consolidated Gas Company is?

A. I have not thought anything about the capital of the Consolidated Company.

Q. You would have to, would you not, if you excluded this three cents or ten per cent.?

A. No, not necessarily.

Q. Do you mean to say that the capital which produces three billion feet of gas which is obtained under the agency agreements is entitled to no return but bare cost of labor and material?

4421 A. It is entitled to a return as I have already stated. We would have added in the depreciation and taxes if we knew what they were, but in the manufacturing cost the capital does not enter.

Q. When you come to determine the capital which the Company is entitled to a return upon you must include the capital which produces this three billion feet which it obtains from other companies?

A. Yes.

Q. Now, as to the five per cent. which is paid on the New Amsterdam construction, which was undertaken in order to furnish a portion of this gas under the agency agreement, that would be a proper expenditure, would it not, if the gas had to be obtained?

A. No.

Q. It would not be a proper expenditure under any conditions?

A. Not under the cost of manufacture.

Q. Would it be a proper expenditure no matter where you classified it?

A. By the Consolidated Gas Company?

Q. Yes.

A. It is a proper expenditure but not under the cost of manufacture.

Q. So it would be a proper expenditure to pay the 34.04 cents to the other company that manufactures under the agency agreement, would it not, if the Consolidated Company had to have the gas, no matter how you classify it?

A. Oh, yes, the classification does enter into it.

Q. Yes, it does as you classify it. Now taking the cost at the holder which the Consolidated Company figures for its own gas at 33.17 cents, on gas sold (item 42) you have made a deduction if I understand of only .02 of one cent to that point.

A. No, I made a deduction of 1.83 cents.

Q. Oh, no, that relates to the cost of gas under the manufacturing agreement, does it not?

A. Total cost of gas at holders.

4422 Q. I am speaking now of Item 42, the Consolidated Gas Company's own station cost?

A. Station cost, yes.

Q. And I say you have deducted up to that point only .02 of one cent?

A. Yes.

Q. So that would leave on the basis of sales 33.15?

A. Yes.

Q. Now, let us take the next item which you criticise, Item 47, repairs to gas stoves $55,954.35. I understand that you do not question the propriety of that expenditure?

A. Not at all.

Q. And you understand that Exhibit 94 is a statement of expenditure and not of income, appears to be, does it not, or charges against expense and not income?

A. Yes, but the gas stove expense is not a charge. I should bring the rents into credits.

Q. That is another question. I am coming to that in a moment,

Is it not a fact that repairs to gas stoves are included in operating cost of gas under both the forms of the Massachusetts Gas Commission and the forms of the New York State Gas Commission?

A. I cannot say.

Q. You do know that repairs to gas stoves are included under the English system of accounting, in which I suppose you are instructed, as part of the operating cost of gas, don't you?

A. As also rents are brought into the credits.

Q. But under the English system no balance is brought in, is it? In other words, on one side appears among operating costs the expenditures for repairs of gas stoves and on the other side among receipts appears receipts for rent for gas stoves, do they not?

A. Yes. But you must remember——

Q. Is not that the way?

A. The English accounts are not prepared on the same basis as this or for the same purpose.

Q. Well, we have heard a good deal about them, and as you came from the other side, I was inquiring a little further.
4423 You do not find in the English accounting that a balance is struck between the repairs of gas stoves and the receipts from gas stove rentals on the other side and merely the balance carried into the ac-ount, do you?

A. No.

Q. Do you know of any gas company where the method is not to include the repairs to gas stoves among the expenses and then put on the other side among receipts the rentals from gas stoves?

A. Yes.

Q. You do know a company where they carry in merely a balance?

A. Yes.

Q. On this side?

A. Yes.

Q. What company?

A. I cannot name it.

Q. Now, you know that some companies have no gas stove rentals at all and yet have repairs to gas stoves among their operating expenses as an aid to the sales of gas, don't you?

A. If they do not have rentals, then they have the profits from the sale of the stoves.

Q. Don't you know that there are companies which have never been in the business of selling stoves at all which still have repairs to gas stoves among their operating costs?

A. Which they charge to the consumers?

Q. Yes. Just the same as they charge the repairs to his fixtures generally.

A. They charge that to the consumer and the consumer pays it; that is the jobbing department of the business.

Q. No, you misunderstand me. Don't you know that there are companies which do not sell gas stoves at all, but which have in their cost of gas not specially charged to the consumer except as they get it from the price of gas, the amount which they expend for repairs to gas stoves, as well as repairs to gas fixtures of the consumer?

A. I have never seen a company like that.

4424 Q. You have never known such as case as that?

A. No.

Q. Don't you know that in the City of Boston there are stove repairs but no stove receipts?

A. I don't know anything about Boston.

Q. If the company was not in the business of renting stoves, then it would have, would it not, expenditures for stoves with no off-setting items of receipts?

A. Which would be paid by the consumer.

Q. Well, the consumer pays everything when he pays his gas charge?

A. No. He would be billed for the repair of that stove.

Q. But in Boston, we will say, he is not billed for the repair of that stove. That would go, would it not, the same as repairs on any other apparatus, into a part of the cost of gas?

A. No.

Q. What would become of it?

A. I don't think it would be a fair charge against the cost of gas under those conditions.

Q. In spite of the fact it is the practice of large companies, you do not think that is right?

A. No, I do not.

Q. Where would it go or what would become of it according to your theory?

A. For the purpose, it may be charged against profit and loss, but it is not a charge against the manufacture and distribution of gas.

Q. Pretty nearly every account goes into profit and loss at the end of the year?

A. Well, that is not the cost of manufacturing and distributing of gas.

Q. Do you consider the expenditure for repairing the fixture of the consumer, the ordinary burner, as a charge against the price of gas?

A. Yes.

Q. Why not then repairing the fixture which is also a burner on his gas stove?

A. No.

Q. Why not?

A. You are making a profit on the sale of this stove.

4425 Q. I am assuming we do not sell the stoves at all, as is the case in many companies; why then is there any distinction between repairing his burner which he uses for an open flame and repairing the burner in the stove which he used for the gas for cooking, what is the distinction?

A. It appears to me there is a distinction.

Mr. BURR: I call Mr. Mathewson's attention to the fact that he has already elicited that Mr. Hall never ran a gas works.

Mr. MATHEWSON: I understand; that is quite obvious.

Mr. BURR: And never operated a gas plant.

Mr. MATHEWSON: That is also obvious.

Q. Let us take item 49, repairs to services $89,033.42. I understand that you have eliminated there $1,850.31?

A. Yes.

Q. That I think you said was an amount so small that figured in cents per thousand it was hardly appreciable?

A. Hardly appreciable.

Q. But will you tell me where the detail of that small deduction appears if you have given it?

A. Exhibit D, schedule 5.

Q. Now, the next item, any portion of which you exclude, is No. 51, repairs to buildings, $15,116.68, of which you exclude $2,845.75 or .09 of one cent. Where does the detail for that appear?

A. Schedule 3 to Exhibit D, the last four items.

Q. Is that on the theory that these last four items—beginning with Hester Street branch, is that right?

A. Yes.

Q. Were really construction and not repairs?

A. Partly that. Of this $1,678.13 was charged against the revenue received from other properties, from rented property.

Q. Is the only reason you exclude them because there were
4426 revenues from rented properties on the other side of the account?

A. Yes.

Q. Now, Mr. Hall, when we are determining the profits of the company in its gas business and the amount remaining applicable to return on capital, it would make no difference, would it, whether in repairs to gas stoves, for instance, the repairs to the stoves were placed on one side of the account and the receipts from stoves on the other side of the account, or whether a similar account were deducted from each side of the account originally, when you came to subtract the expenses from the receipts, the profits would appear the same in either case, would they not?

A. It makes a difference when you come to determine the cost of the manufacture and distribution of gas.

Q. I understand that is your view. I am going a little further than that. Take any one of the items to which we have referred. Like expenditure in care of street lamps, if you exclude that from expenditures in the operating cost of manufacture and distribution of gas, you must exclude the similar amount from the receipts on the other side of the account when you are striking the balance to find your profits, must you not?

A. Yes.

Q. And the amount of the balance will be just the same whether you include the item of street lamps in the operating cost of gas and include the corresponding receipt among receipts or whether you exclude it from the operating cost of gas and exclude the corresponding amount from receipts, will it not?

A. The balance in the profit and loss account would be the same.

Q. It is merely a difference of method in treating the items from an accounting standpoint when you come to figure up what your profits are, is it not?

A. It is a very serious difference when you come to de-
4427 termine the cost of manufacturing and distributing gas to the private consumer.

Q. Well, that may be, but I say when we are determining the profits in our gas business it would be just the same one way as the other?

A. Yes.

Q. And if you exclude it from one side of the account you must exclude the corresponding item from the other side, must you not?

A. Naturally.

Q. Were these various items so far excluded on the advice of the engineers?

A. Several of the charges, the repairs to building accounts, repairs to apparatus were, the others I excluded myself.

Q. Referring to Item 53, the next one which you have questioned, street lamps, $289,259.09, did you know whether the expenditure for street lamps was included in the operating cost of gas by the Massachusetts Gas Commission and New York Gas Commission?

A. I did not study the Commissions.

Q. Was that excluded under the advice of the engineers?

A. It was not.

Mr. BURR: But they agreed with your exclusion of it, did they not?

The WITNESS: They were not consulted.

Mr. BURR: I think they have already testified about it.

Mr. MATHEWSON: Yes, I think they have, and therefore I shall waste no further time.

Q. Have you read Prof. Bemis' testimony and Mr. Marks' testimony in this regard?

A. No.

Q. Now, in reference to these rentals which you say were offset in connection with the repairs to buildings, in getting the sum which you have excluded, if the rentals are offset, then, of course, the buildings must be included in the capital of the company
4428 when you begin to figure the return to which it is entitled on capital?

A. You get the return from the rent of those buildings.

Q. Whatever it may, you have already applied that now to reduction of operating expense, or an offset on certain items?

A. I have charged the expense against the revenue; I do not bring the rent of those buildings in as a credit, I simply eliminate the charges.

Q. But however you may treat that, if the rents received from buildings are to be credited in the Company's Gas business, it is entitled of course to a return on the capital invested on the buildings on the other hand when you come to figure that?

A. Yes, quite so. The rental on the buildings gives them a return on the capital invested in the buildings.

Q. Now, the next item which you have excluded is 54, Interest on Consumers' Deposits, $51,391.52. You know that the receipt of

deposits of that character reduces the amount of bad debts of a company naturally?

A. Yes.

Q. And if that be the case, and these consumers' deposits be a sort of insurance fund against bad debts, as one of the witnesses stated, why is not the payment of interest on those deposits a proper payment like any other insurance item?

A. Because you have the use of the money as working capital.

Q. If we do not have the use of the money as working capital then it would be a proper charge in the operating cost of gas, would it not?

A. No, under no conditions.

Q. Why not, if it is an insurance fund, paid to reduce the amount of bad debts?

A. Because you have the use of the money.

Q. Well, but assume that we could not use it, that it was in a trust fund, or something else, would not we then be entitled?

A. You can invest it.

4429 Q. You don't know where we can invest it to get six per cent., do you?

A. You can get pretty near it.

Q. I wish you would tell me privately afterwards where you can invest it at that rate?

A. I think I can.

Q. Now, this next item of bad and doubtful debts, $82,995.11, you did not exclude, but you made some comments on it. Do you happen to know how much of a deposit under the laws of the State of New York the company can exact?

A. I understand two months.

Q. And don't you know that frequently consumers use in one month more than they ever have in two preceding months, so there is a loss even if the company takes a deposit?

A. It would be rather exceptional.

Q. Well, $82,000 is not an exceptional amount of bad debts upon a business of more than $13,000,000, is it?

A. It could be considerably reduced, I think.

Q. Well, you say you have never operated a gas plant?

A. No.

Q. And have never tried?

A. Have never tried.

Q. Do you know of any company that has any less than .63 of one cent per thousand in bad debts?

A. Yes.

Q. Which?

A. I cannot state that.

Q. And you appreciate that if we did not take deposits from consumers upon which we are bound to pay interest that the bad debts would be very largely increased as a natural course, would they not?

A. Yes.

Q. And do you remember whether you asked from the company

information as to the amount of bills for gas which the company was obliged to extinguish from consumers' deposits which had been made with it?

A. I talked the matter over with them.

4430 Q. And didn't you get the figures?

A. I certainly saw figures.

Q. It amounted to $70,000 or $80,000 or such a matter, did it not?

A. I don't recall.

Q. Now, let us take Item 58 of Exhibit 94, expense of general office, $339,999.51. You excluded from that $31,075.95, if I understand you correctly?

A. Yes.

Q. Will you point out the place of the report where you detail that?

A. Schedules 6, 7 and 8 of Exhibit B.

Q. Schedule 6 which amounts to $25,671.74, covers does it not, expenditures in 1905 attributable to the investigation of the Company by the Legislative Committee in the Spring of 1905?

A. Yes.

Q. Attorney's fees, stenographer's charges, expenses, printing of one kind and another in connection with that?

A. Yes.

Q. It is your view, is it not, that the Company in connection with a matter of that kind is entit-ed to employ counsel and to take the ordinary steps to protect itself and its stockholders within reason?

A. At the expense of the stockholders.

Q. Well, let *let* us see about that. How about the attorney's fees that the Company ordinarily pays, I see you have included those?

A. That is a necessary charge against any business.

Q. Certainly. Do you mean to say that if a company appears before a Legislative Committee that that is not a legal expense which it is entitled to charge in ordinary operating expenses, but which must be specially borne by the stockholders out of their dividends?

A. Yes, sir.

Q. What authority have you for that proposition?

A. That does not enter at all into the cost of manufacturing and distributing gas, it is not a necessary expense. It is an expense by the stockholders to protect their own interest.

4431 Q. But how about the fees of counsel for appearing and in contesting a tax which is imposed on the Company?

A. There are certain necessary charges.

Q. There are certain necessary charges?

A. Yes, for ordinary business.

Q. Well, isn't it a matter of discretion with directors and officers as to what they contest or in what cases they appear?

A. Certainly.

Q. And do you mean to say appearance before a Legislative Committee is in any different category than appearance before a tax commission, in order to argue against the imposition of a tax?

A. It is.

Q. Well, why is it?

A. It is an expense, as I said, against the stockholders. They are fighting for their own interests, to keep up the price of gas then. It does not enter into the cost to the consumer.

Q. In other words, if the Company think that the price of gas is to be lower than is just, they are not entitled to ap-ear by counsel and make their argument unless it comes out of the stockholders themselves?

A. Not at the expense of the consumer.

Q. Don't you know that in England Parliamentary investigation expenses are always allowed and charged in the operating cost of gas?

A. Not in a case of this kind, they would not be.

Q. Will you point out any case in which it has been disallowed in England?

A. I cannot, but it would not be allowed in a case of this kind by any competent public accountant.

Q. Well, you say it would not. I want you to point out any case where it has been disallowed?

A. I cannot.

Q. Don't you know it has been in many cases allowed in England as part of the operating cost, the legal expense in a Parliamentary investigation?

A. It would not be in a case of this kind.

4432 Mr. MATHEWSON: I move to strike that out.

The MASTER: Strike it out.

Q. (Question repeated.)

A. No, I do not.

Q. You don't know whether it has been or not, do you?

A. No, I do not.

Q. Did you exclude this on the theory that it was a special charge and not likely to be repeated?

A. Yes.

Q. You did not find there in the expenses of 1905, any expense on account of the hearing before the Gas Commission, which began sometime in October, 1905, and was largely completed during the calendar year 1905, did you?

A. I think I did. I think there were some.

Q. Anything substantial?

A. I don't recall the particular amounts as I took them out. If they were there, they are out, and they could be identified.

Q. The greater part of all these expenditures took place before the hearing before the State Gas Commission began, which proceeded finally, I think, beginning about the 20th of November, 1905, did they not?

A. They appear to be. I see the last item there is State Gas Commission.

Q. Yes. $2,870.43 out of $25,671.74.

A. Yes.

Q. And of course you do not find anything there in connection with the present suits which were begun in May 1906?

A. No, there would be nothing under that.

Q. Does it not begin to look to you as though this was an exceptional expenditure, but one which the Company was currently undergoing from year to year?

A. No, I do not think that is continuous.

By the MASTER:

Q. You think if they conducted themselves properly they
4433 would not ever be investigated?

A. I assume so.

By Mr. MATHEWSON:

Q. Now, as we are dealing with the present in a sense, is it your view that the legal expenses of the Company before the State Gas Commission when the law expressly provides that the Company may be and shall be heard by counsel is not a proper charge in the operating expense of the Company?

A. No.

Q. You do not think it is?

A. No, it is not.

Q. And you do not think the expense for counsel in these present actions would be?

A. No.

Q. Now I see in Exhibit D, Schedule 7, part of the excluded $31,075.95, you have $1,604.21 on account of five items ,including stenographic work and subscriptions to National Civic Federation. Do you exclude these various items on the same theory?

A. On the principle that they are extraordinary expenses, some of them, and some of them are not chargeable against operating at all, the cost of fitting up an office.

Q. Well, which are not?

A. The first and fifth.

Q. Well, divide them according to the theory you have just enunciated, which of them are extraordinary expenses and therefore not liable in operating expense?

A. Second, third and fourth.

Q. And the first and fifth are not allowable because they are not——

A. They are charges to capital and the first one is a charge to Astoria, according to the voucher.

Q. Well, that would be $85.50?

A. Yes.

Q. And $369.21?

A. Yes.

Q. Or a total of how much, if you have your pencil handy?

A. $454.71.

Q. You do not think they would be chargeable to opera-
4434 tion even if they were not extraordinary expenses?

A. Under no conditions.

Q. They then should go to increase capital account?

A. Yes.

Q. And wherever you have excluded items on the ground they

are not proper operating expense, but should have been charged to construction, by so much the capital account of the Company should be increased?

A. Naturally.

Q. And that would be true for as many years as such items have been charged by the Company in a similar manner?

A. No.

Q. That is, if they are not chargeable to operating expense but are to construction, in any case, those items should not be added to increased capital, whenever they were expended, of course?

A. Yes.

Q. Now, let us see Exhibit D, Schedule 8, where we have $3,800, making the balance of $31,075.95 which you excluded from Item 58. This appears to be damages on account of an accident, that is, explosion at a holder at 21st Street. It is true, is it not, that this represents payment to three men for injuries received at the explosion of that holder?

A. Yes.

Q. Well, now, why should not they be charged to operating expense?

A. Because they are not an operating expense, they are part of the cost of building that holder.

Q. You think they should be charged to capital account and the cost of the holder increased by the ordinary cost plus these $3,800 worth of damages?

A. In the ordinary course they would be.

Q. Well, the whole holder was destroyed at that time. Would you add the damage by destruction of the holder plus the damages received by these men plus the cost of the new holder as the

4435 cost of the new holder?

A. That is a loss of capital, yes, sir.

Q. Well, what is loss of capital except operating expense if you wear out a piece of apparatus and it has to be charged off?

A. Will you repeat that, please?

Q. (Question repeated.)

A. A loss of capital is not an operating expense.

Q. Do you mean to say that if a piece of apparatus wears out or depreciates in use that the amount of that depreciation is not chargeable in operating expense?

A. Ordinary wear and tear is chargeable or ordinary depreciation.

Q. But if it blows up instead of wearing out in the ordinary way you do not think it would be chargeable to operating expense?

A. It is not.

Q. Supposing a piece of apparatus becomes obsolete and has to be replaced by another piece of apparatus, you would charge off the cost of the apparatus to depreciation, would you not?

A. Yes.

Q. And the cost of the new apparatus to construction and the difference between the two would represent your addition to capital account, would it not?

A. Yes.

Q. So that the cost of the old apparatus in that case which you charge off would be in effect an operating expense, would it not?

A. It would be if provided for by your depreciation from year to year.

Q. Yes, in other words, that provision for depreciation is part of the operating expenses of a company?

A. Certainly.

Q. Don't you know as a matter of fact that explosions big or little in a gas company and injuries to employees are ordinary and usual incidents of a gas business and not anything extraordinary?

A. Not the explosion of a holder in course of construction.

4436 Q. Well, supposing this holder had not been in course of construction but had just been completed, how then about the payment of $3,800.

A. If the holder was in operation and being used, any accident happening them as naturally an accident might, would be in the course of the company's business.

Q. And that would be chargeable then to operation?

A. Yes.

Q. Now, referring to the next item, 62, Real Estate Rents, you exclude from the $42,674.71 only $625, if I understand?

A. Yes.

Q. And that is not appreciable in figuring the cents per thousand?

A. No.

Q. In which exhibit are the details of that?

A. There are no details given; that represented the rent of an office for three months.

Q. So that we really may disregard that?

A. Yes, it does not make any particular difference.

Q. In reference to the next item to which you object, or any portion of it, Item 65, insurance, $54,031.83, you exclude only $152.44 and that also is negligible virtually, is it not?

A. Yes.

Q. And you have not produced details?

A. No.

Q. Let us take taxes, $965,843.88, will you point at where I will find the details of the $222,692.62 which you have excluded from that item?

A. Page 33 of the report.

Q. Of the total taxes of the company to make up this sum last mentioned you exclude taxes on income from investments in other securities, $5,257.48; taxes on real estate from which the company draws rent, $2,928.85; taxes on dividends in excess of four per cent. $120,000; interest on unpaid taxes, $4,506.29, total $222,692.62. Now, the first item is excluded by the company's computation. Why do you deduct taxes on real estate from which the company draws that $2,928.85?

4437 A. It is a charge against the rents received from the properties from which they drew those rents.

Q. Have you not applied the real estate rents against repairs?

A. No.

Q. Did you not in getting the $1,600 and odd dollars to which you have testified previously?

A. No.

Q. Do you not appreciate that *it* begin business where large parcels are required, several city blocks for instance, it is economy in the operation of a company to acquire the entire block even if there may be some particular which they cannot use at the moment?

A. It might be.

Q. Well, in that view, the real estate which they thus acquire, assuming it to be a prudent investment in the business, would be part of the capital upon which the company would be entitled to earn a return, would it not?

A. In that proportion that it earn a return from the rent of the building.

Q. Well, but the return from the rent of the buildings would be credited for whatever it might appear to be?

A. Yes.

Q. And you could conceive of a situation, could you not, in which if the company received no rent from the building it might be economy for the company to own a small lot where it owned all the rest of the block and made noises and smells and other nuisances which might be complained of if the property was in the hands of other persons?

A. Yes.

Mr. BURR: This is all speculation.

Q. And if the company employs this land or is entitled to include this land as part of its capital prudently in the gas business and the rents received from real estate are credited, why should it not be entitled to charge the amount which it pays for taxes?

4438 A. It is entitled to charge it against the rents.

Q. Entitled to charge it to profit and loss as you have proved, is that right?

A. Yes, against the rents and not to the consumer.

Q. It would make no difference in the profit of the company if the items balanced, whether this was included in the cost of gas and the corresponding item in the receipts and whether they were taken from either side?

A. Yes, but it makes a difference in the cost of gas.

Q. Yes, you can figure the cost of gas down to nothing by offsetting enough items on each side and have $4,000,000 left clear.

A. No, I did not follow that out.

Q. But the point is the more of these items which you take out of the operating cost of gas and at the same time take the corresponding amount out of receipts, the lower you are reducing the apparent cost of gas or operating cost of gas in every instance, is not that so?

A. Yes.

Mr. BURR: And the converse is true?

The WITNESS: Exactly.

Q. Now, where do you get the $120,000 which appears at page 33

of your report under "taxes on dividends in excess of four per cent."?

A. On page 33, these are the same items the company used.

Q. Then with the exception of the $2,928.85 taxes on real estate from which the company draws rent, the only item left in which there would be a difference is $94,506.29 interest on unpaid taxes. On what theory did you exclude that particular operating expense, Mr. Hall?

A. Well, it was not an operating expense?

Q. Well, why?

A. That is merely a book entry on your part in the meantime.

4439 Q. Well, but you understand, do you not, that the tax has been assessed?

A. Yes.

Q. And is adjudged against us at present?

A. It is a tax of previous years, consequently not a charge against 1905.

Q. You understand that interest has been running against this tax and that it has accrued in previous years up to 1905?

A. Yes.

Q. And this covers only the portion of that interest accruing in 1905?

A. Yes.

Q. And if we make an expenditure for counsel fees in contesting a tax which the company believes to be an improper one, you are entitled to charge, you have said, the counsel fees as part of the operating expenses?

A. Ordinary counsel fees, I said.

Q. Well, we have no extraordinary counsel fees in our company?

A. Contesting taxes would be.

Q. And wasn't a portion of this interest, amounting to $94,506.29, actually paid in 1905?

A. I do not recall whether it was actually paid or not.

Q. Whether it was actually paid or not would make no difference, would it?

A. None.

Q. The point is that being interest on taxes which are contested, the company would not be allowed to charge that as an operating expense?

A. Certainly not.

Mr. BURR: And he said on former years.

The WITNESS: Those are taxes of former years.

Q. Well, assuming it was a tax assessed in 1905?

A. Yes.

Q. And interest has been running for a part of 1905 on that tax which we are contesting?

A. We admit the 1905 tax.

Q. How is that?

A. We admit the 1905 tax.

Q. Do you admit any interest accrued on taxes of 1905?

A. No.

4440 Q. So that it does not make any difference whether it was the tax of 1905 or some other year, whether you allow the interest or not?

A. We would not allow it in any case.

Q. In other words, if the company sees fit to contest a tax, considering that it is a prudent action to contest it in the courts, while they are entitled to charge their legal fees they are not entitled to charge interest if they have to pay the tax with interest ultimately, is that right?

A. No, it is not.

Q. Is that right?

A. No, it is not right. They are not entitled to charge the legal fees in that connection.

Q. Oh, they are not entitled to charge the legal fees?

A. No, not in that connection.

Q. Just explain a little, I do not understand you?

A. That is purely speculative, the matter of contesting those taxes.

Q. You mean when you go into the courts you are going into speculation?

A. It is purely speculation when you are contesting the tax.

Q. Is it your view that if a tax is assessed against the Consolidated Gas Company, which its officers and directors believe to be doubtful, and are so advised by counsel, that the company is not entitled to contest the tax in the interest both of their stockholders and consumers?

A. They are at liberty to contest the tax. But it is in the interest of the stockholders.

Q. And also of the consumers if it prevents the piling up of heavy taxes, because taxes are chargeable as part of the operating cost of gas?

A. They are charged as part of the operating cost of gas.

Q. So indirectly it affects consumers as well as stockholders?

A. Not when gas is selling at a fixed rate.

Q. But the point which we are trying to determine in
4441 this case is what is the proper price to be charged for gas?

A. Yes.

Q. So as to meet the proposition?

A. Yes.

Q. Let me ask you again, isn't it your view that the counsel fee in contesting a tax under advice of counsel is properly chargeable as an operating expense to the company?

A. If you are contesting the present year, but in this case you are contesting past years.

Q. I do not quite see the distinction, but I think I will get at it. Supposing the company pays this year to counsel a fee for contesting a tax which was assessed in 1904, the contest being made in 1905, is it your view that they could not charge to the operating cost of gas the fees for counsel in contesting that tax?

A. No, you cannot charge it——

Q. You cannot charge it in 1905 because it was a 1904 tax.

A. Exactly.

Q. But you could charge it so long as the charge did not exist and the services had not been rendered in 1904?

A. I don't think you could charge it to arrive at the cost of this gas.

Q. So that you reduce it to this: that you never can charge counsel fees in the operating cost of a gas company unless performed in the very year in which the tax is assessed and in relation to that particular tax?

A. No, I don't say so.

Q. Well, I wish you would explain a little because I am hazy as to your theory. When can you charge a counsel fee for contesting a tax in the operating cost of a gas company, and when can you not?

A. You can charge to the operating cost the ordinary, general expenses of the business; not such items as counsel fee for contesting a franchise tax?

Q. You can never charge that?

A. Not against the cost of operation.

Q. No matter whether the tax is assessed in the particular
4442 year with which you are dealing or not?

A. No.

Q. And no matter whether the services in contesting the tax are rendered in the particular year?

A. No.

Q. And the same theory applies in your view, does it, to the further expense of protesting a tax, that is to say to the interest which would accrue on it?

A. That is right.

Mr. BURR: I believe you have already stated that it is the fixed principle of the Company to contest all taxes.

Mr. MATHEWSON: I have never said anything of the sort. On the contrary, we are paying taxes largely, and I think we are the largest taxpayer in the City of New York, or at least have been for a long time.

Mr. BURR: When you pay.

Mr. MATHEWSON: Yes, when we pay and as we pay. How does the city stand as a payer of its debts, as far as the Gas Company is concerned?

Mr. BURR: We are perfectly willing to pay you when you are willing to accept.

Q. Now, take the next item to which you object, No. 67, contingent expenses, (includes renewals and replacements) $1,328,-316.37. I understand that in effect you rejected the whole of that and then substituted for it $167,427.84?

A. Yes, plus the depreciation from the gas stoves, making $222,-382.82.

Q. And that amounts to how much?

A. 1.71 cents per thousand feet of gas distributed.

Q. Do you mean the gas sales?

A. Gas sold to the consumers.

Q. Now let us see where you deal with that. Is that on
4443 page 34 of your report?

A. 34 and beginning of page 33.

Q. Now I understand you to say that the renewals and replacements which appear as part of the 10 cents are not actual expenditures?

A. It is stated so in the books depreciation.

Q. Now let us see. You understand by the Company's books that 10 cents per thousand feet was charged in its accounts to represent actual renewals and replacements plus a contingent or reserve fund, the 10 cents to cover all that I have stated have you not?

A. An arbitrary charge to cover that.

Q. You understand that at the conclusion of the year, into that account is written the amount of renewals and replacements?

A. No, I do not.

Q. You did not understand that?

A. No.

Q. Didn't you know that a portion of this $1,328,316.37 was covered by items written in representing renewals and replacements at the end of the year?

A. No.

Q. The balance only of that sum representing what might be called a contingent or reserve fund?

A. No, I did not.

Q. Now let us look at page 34 of your report for a moment. You have "plant" $3,424. That represents, does it not, the cost of sundry plant and apparatus, dismantled, to make room for new plant, and apparatus plus the cost of dismantling, less what was recovered from the sale of old apparatus as scrap or from its use as repair material. Also the book value of plant and apparatus sold, less the amount recovered?

A. It so states.

Mr. BURR: That is quoting from the resolution?

Mr. MATHEWSON: Yes:

4444 Q. In other words, when a piece of apparatus was worn out and abandoned you found that the cost of that, as appears in the book, was charged off?

A. Yes.

Q. It would be depreciation, if you please to put it so, whatever you please to call the account?

A. Yes.

Q. And if other apparatus were acquired within the year, that the cost of that other apparatus was charged to capital or construction?

A. Yes.

Q. So that the cost of the old apparatus would represent a replacement or depreciation?

A. No, it would represent a depreciation?

Q. If you take the new apparatus at the cost which is charged to capital, that represents to a certain extent replacement of ap-

paratus which has been charged off or is worn out, and become useless, does it not?

A. This particular amount is charged off as depreciation, as the entry appears here.

Q. Yes, I understand, but I simply ask you as to the facts; is not my statement a fair one?

A. Do you mind repeating it?

Mr. MATHEWSON: The Stenographer will repeat it.

The S-ENOGRAPHER (Reading): If you take the new apparatus at the cost which is charged to capital, that represents to a certain extent replacement of apparatus which has been charged off or is worn out and become useless, does it not?

A. Yes.

Q. So that if apparatus amounting to $3,424, which is the amount mentioned, is abandoned, and apparatus representing $10,000 is installed, that $10,000 expenditure would represent the expense of $3,424 of replacement and apparatus abandoned, would it not?

4445

A. No. It would represent a depreciation of the old apparatus.

Q. Yes, a depreciation, and if you please to put it in another way, it would represent a replacement to that extent?

A. You might call it that. I wouldn't.

Q. Well, that is what we do call it?

A. Well it is wrong.

Q. Well, in that event it would not be a mere charge off without any corresponding effect on capital account because the capital account would be increased only by the difference between the cost of the new apparatus and the cost of the old apparatus which is charged off?

A. It might be in that particular case.

Q. And if that be the case there is no criticism on your part, is there?

A. There is a criticism.

Q. What is it?

A. That account was depreciation. This account marked here.

Q. You mean it is headed, "Depreciation" in the company's books.

A. No. It is depreciation.

Q. If a greater expense is made for apparatus than this $3,424, isn't the apparatus of the company replaced to the extent of $3,424, even if you consider it first charged off to depreciation?

A. Then your accounts are not properly kept?

Q. Do not worry about that; we will take care of that. Just answer the question.

A. It must be in that particular case of plant.

Q. Well, let us take mains and see what about them: Mains, $90,561.54. That appears to be the cost of mains abandoned during the year and of mains replaced during the year.

Mr. BURR: The book value of mains abandoned.

Mr. MATHEWSON: Yes, very good. Abandoned during the year,

and of mains replaced during the year with mains of larger
4446 capacity, less the value as scrap of the old mains taken up.

Q. Now you find, do you not, that if mains were replaced by larger mains, the cost, as appeared on the books, of the mains taken up was charged off to depreciation?

A. Yes, sir.

Q. And you found, did you not, that the cost of the larger mains which was installed, was charged to construction?

A. Yes.

Q. And the net result is that your cost of main, cost of new main, is a replacement of old main abandoned, to the extent of $90,561.54?

A. No, sir.

Q. And that only the balance represents new construction and capital account, isn't that so?

A. No, that is a depreciation of your old mains.

Q. Let us forget the words and get at the substance. As a matter of fact, if you have $90,000 worth of mains which are charged off and you get $100,000 of new mains within that year, so far as your main account is concerned, it means that you have charged off $90,000 worth of mains, that you have replaced them by the new mains and that you have carried $10,000 more to capital account, doesn't it?

A. Yes.

Q. So that it makes no difference at all whether you call this depreciation or not. If you have put down $100,000 of new mains you have replaced $90,000 worth of mileage, and it does not show in the capital account at all, and you have charged $10,000 more of mains at cost into the capital account, because it is beyond the cost of the mains which were replaced, isn't that right?

A. That is what it comes to, the net result.

Mr. BURR: Are you speaking of an assumed condition or from the books of the company?

Mr. MATHEWSON: No, I am speaking of the exact condi-
4447 tion, the substance and not the words. It has been testified over and over again what the situation is, and I do not care what you call it, that is the fact.

Q. Now, we have services, for the book value of services taken up or cut off or abandoned in the streets, $37,401.00. That you say is depreciation?

A. Depreciation.

Q. But don't you find in the company's method of keeping its accounts, that if it put in other services new that year to the extent of $50,000, that it would carry into capital account only a difference between the $37,401 and the $50,000 as an increase to capital?

A. That may be, but it does not alter——

Q. But don't you find that to be the fact?

A. Yes.

Q. So that as a matter of fact of that $50,000.00 expended for services $37,401.00 would be a replacement of services to the same extent as they were charged off to depreciation, isn't that so?

A. That is your way of looking at it.

Q. With your way of looking at it this $37,401 would represent an actual expenditure for new services, wouldn't it?

A. No, sir. That is a depreciation of the old services.

Q. But if new services are put in, or new mains are put in, to the value of the services or mains charged off, and do not go to increase the capital account, but the capital account is increased only by the difference between the mains or services charged off and the total expenditures for constructing mains and services, then as a matter of fact it amounts to a replacement of the mains and services up to the extent of the mains and services charged off, doesn't it?

A. I do not see it that way.

Q. Doesn't it amount to the same thing?

A. No, I do not see that.

Q. What do you mean by depreciation in a case like this
4448 where a main of 6 inch diameter is replaced by a main of 30 inch diameter?

A. When you lift the old main out of your books that is depreciation. The new main is straight construction.

Q. But if the main is put down it is a replacement of the old main to the extent of the old main?

A. No, a new main is straight-out construction work.

Q. But it does not yet appear as within the capital account?

A. No, because you necessarily must take the old main out of the books.

Q. Precisely, and then does not the whole expenditure for mains represent a renewal of your mains value to the extent of the mains charged off, and doesn't it represent additional capital to the plant beyond the amount of mains charged off?

A. It represents additional capital.

Q. Is my question answered in the affirmative?

(Question repeated).

A. The plant represents additional capital.

Q. And does not the expenditure, excluding the plants, represent in effect a renewal or a replacement of your mains value to the extent of the mains charged off?

A. No, the expenditure represents absolutely new construction.

Q. But doesn't it represent a renewal or replacement of mains value which you have lost or abandoned to the extent of what you have lost or abandoned?

A. No, I don't see it that way.

Q. If a railroad lays a 100-pound rail instead of a 60-pound rail, does that 100-pound rail have to be charged to new construction or to additional capital?

A. Additional capital. The 60-pound rail would naturally be written off as depreciation.

Q. Would not the cost of a 100-pound rail represent an in-
4449 vestment of the 60-pound rail to the extent of the original cost of the 60-pound rail?

A. It might.

Q. Would it?

A. No, the 100-pound rail is new construction.

Q. Wouldn't it represent a replacement of the 60-pound rail to the extent of the value of the 60-pound rail?

A. Yes.

Q. And if you put in a 36-inch main in place of a 6-inch main, does not the same hold true?

A. Yes.

Q. And if you put in $100,000 worth of mains and lose or abandon or charge off $60,000 worth of mains in the same period, wouldn't that represent a replacement in your capital account of $60,000 worth of mains charged off plus $40,000 more to new capital?

A. It represents an additional capital of $40,000. It represents $40,000 worth of new capital?

Q. Won't you answer the first part? Doesn't it represent a replacement in your mains account of $60,000 worth of mains which you had lost by charging of- other abandoned mains to depreciation?

A. No, I won't say that.

Q. Forget you are an accountant and just give me an answer to the question in ordinary terms. You have lost $60,000 worth of mains because they have been abandoned?

A. Yes, sir. That is depreciation.

Q. You have now put in $60,000 worth of mains which brings your capital account, so far as capital account is concerned, up to the original level?

A. Yes.

Q. And you put in $40,000 worth of mains which now appear in your books as new or additional capital or construction?

A. Yes, sir. That $100,000 represents new construction.

Q. But is not $60,000 of that in effect a replacement of that
4450 amount in your mains value, so that it brings your capital merely up to the level at which it stood before you charged off the $60,000 of old mains?

A. It brings your capital up to that level, but your $100,000 is new construction and $60,000 is depreciation.

Q. Is not replacement of a 60-pound rail by a 100-pound rail on a railroad new construction also?

A. The 100-pound rail is new construction.

Q. Or does it replace the 60-pound rail to the extent of the value of the old 60-pound rail abandoned?

A. If you look at it that way, it may, but that is not the way to look at it.

At 5 P. M. adjourned to December 4, 1906, at 10.30 A. M.

Last Exhibits:

Complainant's, 256.
State's, Y.Y.
City's, 87.

4451 Circuit Court of the United States, Southern District of New York.

CONSOLIDATED GAS COMPANY OF NEW YORK, Complainant,

vs.

JULIUS M. MAYER, as Attorney General of the State of New York; WILLIAM TRAVERS JEROME, as District Attorney of New York County; FREDERICK E. GUNNISON, JOHN C. DAVIES, and LUCIEN L. SHEDDEN, Constituting the New York State Commission of Gas and Electricity, and THE CITY OF NEW YORK, Defendants.

Before Arthur H. Masten, Special Master.

NEW YORK, *December* 4, 1906.

Met pursuant to adjournment.
Present: The Master, Mr. Mathewson, Mr. Burr, Mr. Kirby.

4452 Mr. BURR: I want to note a correction on page 4364 of the record. The figures 1.08 on the third line from the bottom should be .03.

JAMES HALL resumes the stand, and further testifies:

Cross-examination by Mr. MATHEWSON (continued):

Q. You included in depreciation and as an operating charge items to the amount of $222,382.82, if I understand you correctly?
A. Yes.
Q. And the reason you deducted from the total amount of depreciation charged off, to wit, $282,219.67 the sum of $59,836.85, was because you conceived that that sum represented charges applicable to the years prior to 1905?
A. Yes.
Q. Now, the reason why a depreciation account is allowed in an operating expense is, is it not, that a company is entitled to keep up its property, to maintain its property?
A. It is.
Q. Now, a depreciation account, speaking technically, is never an account of expenditure, is it?
A. No, sir.
Q. It is the marking off or down of apparatus or property disused or lost, or which should come out of the property account as a living asset?
A. Yes.
Q. Now, the expenditure comes in, does it not, when you come to produce more property by new construction to take the place of the property which has been marked off by depreciation?
A. Yes.
Q. And when you make an expenditure for new construction equal to the amount which has been marked off in depreciation you have then replaced in the property account a similar amount of

property and brought your total property account back to the former figures?

A. Provided the items can be identified one with the other.

4453 Q. Oh, yes, assuming that. And then any addition to new construction would represent an addition to property account?

A. Yes.

Q. Up to the extent of the amount of the items charged off to depreciation this new construction would merely represent a replacement of property account to the extent which it had been charged off to depreciation?

A. Always provided there was a connection between the items.

Q. Now, let me show you Complainant's Exhibit 79, showing the treatment of the accounts from 1884 down to date. In this case you see in one column the valuation at the time of the consolidation in 1884?

A. Yes.

Q. And then in the second column you see "construction since consolidation?"

A. Yes.

Q. And in the third column you see "depreciation (renewals) since consolidation"?

A. Yes.

Q. And the net increase appears to be, does it not, the difference between the total construction and the amount which has been marked off in depreciation fund, or whatever you please to call it?

A. That appears to be so.

Q. So that in that case the net increase of property in the case of plant in this exhibit would appear to be $3,904,937.31?

A. It would.

Q. While to new construction, $5,132,620.41 was applied, $1,227,683.10 to replace items which had been marked off in depreciation, leaving the balance $3,904,937.41 net?

A. Not necessarily.

Q. Well, that would be the effect of it?

A. That would be the effect of it.

Q. And so, too, for each one of the other items of property appearing in Complainant's Exhibit 79; they appear to have been treated in the same way, do they not?

A. They do.

Q. And the marking off of depreciation on the property of the corporation where it is proper makes available a fund for the

4454 purpose of replacing that value in property by new construction?

A. Yes.

Q. And that is where the actual expenditure comes in?

A. In the new construction account.

Q. And the amount expended in new construction to keep up or replace the property marked off to depreciation would, of course, exactly equal the amount marked off to depreciation?

A. Not necessarily.

Q. To keep the property up to its original value? Wouldn't it?

A. Do you mind repeating the question?

The STENOGRAPHER (reading): And the amount expended in new construction to keep up or replace the property marked off to depreciation would, of course, exactly equal the amount marked off to depreciation, to keep the property up to its original value, wouldn't it?

A. Yes.

Q. Now, are you familiar with Field's Analysis?

A. I have seen it. I have studied it to a certain extent.

Q. You were speaking yesterday about investigating expenses. Will you look at this Field's Analysis for 1905, and see whether "Law and Parliamentary Expenses" are not included there?

A. They are.

Q. In the operating cost of gas?

A. They are; but, as I stated yesterday, this was prepared for a different purpose.

Q. Don't you know that the parliamentary expenses there referred to are parliamentary committees and investigations?

A. I understand what they are.

Q. That is true, isn't it?

A. Yes, that is quite true.

4455 Q. And these parliamentary investigations, as a rule, are for the very purpose of determining the price which may be charged by different companies for gas, in investigating their conditions of manufacture generally, are they not?

A. I understand so.

Q. Now, the $282,219.67 of items charged off for depreciation, less the $59,836.85, which you deducted from that amount in reaching your net figure of 1.71 cents appear at pages 34 and 35 of your report?

A. Yes.

Q. In figuring 29.14 cents as the average cost of gas to the companies delivering it to the Consolidated Gas Company, including cost of labor and material and whatever is stated in the agency agreements, did you take into consideration the fact that one of the companies, the Central Union Company, did not maintain gas of the candle-power required by the Consolidated Gas Company for all the year 1905?

A. I did not study the question of candle-power.

Q. Your attention was not drawn to that fact?

A. It was not.

Q. As to leakage; you say that you have included in this 52.5 cents an allowance for leakage amounting to .73 of a cent?

A. Yes.

Q. Will you tell me how you obtained that figure?

A. Take the amount of the leakage of 300,000,000 odd cubic feet, the cost of manufacture 31.69 cents, and divide by the amount distributed.

Q. By leakage you include unaccounted-for gas?

A. Unaccounted-for gas.

Q. And gas used by the company itself?

A. Yes.

Q. You spoke of the difference between the 29.14 cents at which you figured gas of the other companies and about 34 cents at which price the Consolidated Company paid for it as return on capital. You do not mean that that was return on capital of the Con-

4456 solidated Gas Company?

A. No; the subsidiary companies.

Q. And so far as the Consolidated Gas Company is concerned, it expended, did it not, according to the records, the amount specified in Exhibit 94, which is 34.82 cents per thousand feet of sales, in order to procure the gas?

A. Yes.

Q. How much did you deduct from that figure to get your 29.14 cents? I mean in dollars and cents?

A. $142,580.32.

Q. Now, as we are dealing with the price at which the Consolidated Gas Company can sell its gas, and not return on capital of the other companies, will you divide that amount by the amount distributed, sold by the Consolidated, of 13,283,000 feet, and let me know how much that amounts to in cents per thousand on the entire sales of the Consolidated?

A. Approximately 1.1.

Q. Then if that was to be added to your 52.5 cents, that would make 53.6 cents?

A. It would.

Q. Now, the 53.6 does not include any amount to equalize the repairs and renewals in the year 1905 with the average for the previous twenty years, as was done by Professor Bemis and the other witnesses, does it?

Mr. BURR: Will you point out where Professor did it?

Mr. MATHEWSON: Is there any doubt that he did do it? I cannot point it out now.

The WITNESS: I do not know anything about Professor Bemis' evidence.

Q. I supposed you had been in consultation with Professor Bemis?

A. I have not.

Q. You didn't know, then, that he did it that way?

A. I didn't know what his evidence was at all.

Q. I see. I assumed you were familiar with it. Well,

4457 that does not include anything to equalize the depreciation or repairs and renewals, whatever you please to call them, for the year 1905, with the average of the twenty years prior to 1905, does it?

A. In my opinion, the depreciation written off here is for the purpose of averaging it to what you consider your fair average depreciation.

Q. What is your basis for supposing that is the fair average depreciation?

A. The statement appearing in the books on page 34.

By the MASTER:

Q. You mean the resolution of the Board of Directors?
A. The resolution of the Board of Directors.

By Mr. MATHEWSON:

Q. Is that the sole foundation for that belief on your part?
A. Yes.
Q. Now, as a matter of fact, you yesterday examined State's Exhibit L, by which it appears that the total amount of the repairs and the depreciation fund (or renewals—as they are denominated) was 7.34 cents for the year 1905, did you not?
A. No.
Q. You did not see this?
A. No, I did not see that.
Q. I think it was shown you?
A. I saw it in another connection.
Q. Now, it appears that the repairs and depreciation (or renewals) for the year 1905 amounted to only 7.34 cents, and it also appears in evidence that for the twenty years preceding 1904 they averaged 10.89 cents, or a difference of 3.55 cents below normal in 1905, below the average. An equalization, I think, was added by each witness, at any rate by some. Will you now add 3.55 cents, which would equalize for the twenty preceding years to the 53.6
4458 cents, if you can do it in an instant, and tell me what that would make if they are averaged. 57.15, isn't it?
A. 57.15.
Q. That would be 57.15 cents, would it not?
A. Yes.
Q. Did you make any allowance in your cost for the additional enrichment due to the 22 candle power gas?
A. Before you get away from this, I do not say that I add this 3.55.
Q. I understand you do it at my request.
A. Yes, at your request I make that computation.
The MASTER: Acting as his computer?
The WITNESS: Acting as his computer.
Q. I am merely adding to see where we get with respect to the computation of the other witnesses.
A. I do not wish to take any responsibility for it.
Q. Did you make any allowance in your cost for additional enrichment due to 22 candle power gas, whereas only 20 candle power gas was required for the first half of 1905?
A. No, I find in your records that the candle power averaged 25 to 26.
Q. Well, however that may be, that is in evidence and you need not to trouble yourself about that proposition. You have never run a gas business and you do not know what margins there may be necessary in this locality.

Mr. BURR: He is only telling you what appears by your books.
Mr. MATHEWSON: That is already in evidence by another witness.

Q. The Gas Commission, as the papers in evidence show, figure 1.8 for additional enrichment, for the additional candle power of 22 candles, as against your 20 candles. Will you take two-thirds
4459 of that, or 1.2, and add it to 57.15, and see if it would not give you 58.35?

A. It would.

Q. And if we add to that the 2.18 for street lamp maintenance, following the forms of the Massachusetts Gas Commission and the New York Gas Commission, that would make, would it not, 60.53?

A. Yes.

Mr. BURR: I do not see that this is a proper cross-examination. He is assuming, if he puts back all these things he has eliminated, it will indicate a certain figure. I do not see that it proves anything.

Mr. MATHEWSON: I am seeking if he proceeded on the basis of the two Gas Commissions it would not produce a certain result. I think I am through, with one or two more questions, on this line.

Q. Did you observe in connection with this Chicago investigation that Professor Bemis allowed 3 cents for reserve or contingent fund or for the depreciation, which you said you had not estimated but which must be allowed in Chicago?

A. I don't recall Professor Bemis' evidence in Chicago.

Q. Well, I will say to you that he allowed according to the testimony 3 cents for depreciation or reserve there in addition to actual depreciation charged off, and also before the Gas Commission in New York a similar 3 cents last winter. Now, if we assume the same reserve fund to be permissible and add to it 60.53, that would make a total of 63.53, would it not?

A. It would.

Q. That would exclude repairs to gas stoves and interest on consumers' deposits and the taxes to which you object and the general office expenses which you have ruled out, would it not?

A. It would.

4460 Q. And it also would exclude all fixed charges of the company upon its outstanding obligations or return upon capital?

A. Yes.

Q. Will you now turn to the portion of your report dealing with the leakage month by month upon which you commented yesterday?

A. Exhibit B.

Q. You found that upon your basis of computation in June, July, August and September there would apparently be an amount of sales exceeding the amount manufactured, did you?

A. Yes.

Q. Now take the month of June, for example. You know, do you not, that the meters are read all through the month of June at different periods?

A. Yes.

Q. And that a meter read on the 3d of June would carry a period from the 3d of May to the 3d of June and be largely in May?

A. Yes, I know that.

Q. And that what you get in this kind of a computation is simply

an average reading which would occur as of the middle of each month?

A. Yes.

Q. And that the amount therefore of the sales as it is produced by these meter readings is not the amount of actual sales for the month with which you are dealing?

A. I recognize that.

Q. While the make, on the other hand, is the actual make for the actual month?

A. That is true.

Q. So that there might be a discrepancy and would be some discrepancy between the two?

A. One practically offsets the other, under ordinary conditions.

Q. Well, there would be some discrepancy?

A. There naturally is, yes.

Q. Take, for instance, the calendar month of April; that has thirty days?

A. Yes.

Q. And you get thirty days' make?

A. Yes.

Q. On the other hand, if you take the month, the average reading as April 13th, you would get from March 13th to April
4461 13th, which would be 31 days; that would be a very substantial difference, would it not?

A. It would.

Q. When you take the entire year, however, you find by the figures which you quote on Exhibit B, that the leakage is 2.21 cents, as I see, which corresponds with the company's figures, does it not?

A. It does, a difference of three million feet, I think.

Q. A trifling difference?

A. A trifling difference.

Mr. BURR: Which way?

The WITNESS: Our leakage is less than the company's. I took into account the stock on hand at the beginning and end, which they did not.

Q. The company's was 2.22?

A. Yes; there was very small difference.

Q. Nothing more than would be likely to occur in casting it up?

A. No.

Mr. BURR: He says he took into account the amount of gas on hand, which the company did not.

The WITNESS: The company did not.

Mr. MATHEWSON: Yes, I see.

Q. Will you turn to the figures that you have made on the real estate account of the constituent companies forming the Consolidated in 1884? Where is it?

A. At the very back of the reports, the last one, page 3.

Q. In making the figures you took the cost of the real estate as it appears on the books of the constituent companies, did you?

A. Yes.

Q. And you took their figures of charges for depreciation and charges for appreciation?

A. Yes.

Q. Did you go through with great care and see what pro-
4462 portion has been charged off for depreciation, what percentage year for year, percentage on the value of the property?

A. Would you mind repeating that question?

(Question repeated.)

A. I did not work out the percentage; I went over the account with care.

Q. Is it not the case that in a great many instances of charges for depreciation you could not tell from the books of the companies whether it related to real estate or not?

A. No.

Q. You accepted Yalden's figures as to the Metropolitan Company, you say?

A. I did.

Q. Did you also accept his report in excluding the Knickerbocker Company?

Mr. BURR: How do you mean, excluding the Knickerbocker Company?

Mr. MATHEWSON: Any assets of the Knickerbocker at the time of the consolidation.

A. The Knickerbocker assets were included in the Municipal Company assets, in the Municipal Company books.

Q. But beyond what they were included in the Municipal Company's books, you assumed no assets for the Knickerbocker, did you?

A. No assets.

Q. Let us take the Manhattan Gas Ligh Company. It appears by its books that the buildings and improvements stood originally at $1,378,691.45, does it not?

A. Yes.

Q. You know that land was bought in 1835, something like that?

A. Yes.

Q. And yet the accounts of the Manhattan Gas Light Company, just prior to November 11th, 1884, showed a valuation of buildings and improvements and land actually $21,700.00 less than the original cost; is that right?

A. Yes.

4463 Q. Now, when you show in the third column appreciation on transfer to Consolidated on November 11th, 1884, you find that this appreciation was written up on the books of the constituent companies, don't you, at that time?

A. It was not written up in the books of the constituent companies; it was that difference between the book value and the price at which the Consolidated took it over.

Q. Did you find any record in the books of the constituent companies of that appreciation?

A. In some cases.

Q. And, of course, you have no means of knowing what the increase in value of the land of the Manhattan Gas Light Company from 1834 or 1835 down to 1884 was?

A. No.

Q. And the same would apply to the other five companies?

A. Yes.

Q. How do you know whether your data as incorporated in the first column on page 3 of this schedule relating to real estate as showing what the real estate of these constituent companies cost agree with the figures of Mr. Yalden?

A. They do not.

Q. In what respect do they differ?

A. The Manhattan Gas Light Company's figures differ; the Harlem Gas Light Company's figure differ, and the New York Gas Light Company's figures differ.

Q. In what way do they differ?

A. Mr. Yalden included in the Manhattan Gas Light figures certain apparatus amounting to $1,994,745.29. I excluded that.

Q. What about the other two companies to which you referred?

A. In the Manhattan a reference to Mr. Yalden's report gives the most of the figures; in the Harlem Gas Light Company Mr. Yalden did not include certain charges which I included. I make the figures considerably higher than Mr. Yalden does. Then in the case of the bulkheads and office buildings at Harlem, I could not
4464 determine the cost to the company, consequently I allowed what the Consolidated paid for them.

Q. As a matter of fact, while your first column is headed "Original Cost, Buildings and Improvements," it really refers to the real estate, the land with whatever buildings there were on the land?

A. Yes.

Q. And so, too, as to the other columns on page 3 of this schedule, they likewise relate to the land plus any buildings thereon?

A. The real estate only.

Q. Not buildings which formed part of the plant of the company, the manufacturing plant?

A. So far as I could determine, no.

Q. But they do include the general office buildings of the company and other improvements of that kind as might have existed outside of the buildings which form the plant of the company?

A. They do.

By Mr. BURR:

Q. Does not that all appear in Rowland's appraisement, and does it not also appear in these schedules attached to your report on the real estate, what real estate was transferred on the 11th of November, 1884, by these companies to the Consolidated?

A. It does.

By Mr. MATHEWSON:

Q. While you have headed this first column, "Original Cost," your information comes wholly from the books of the constituent companies, does it not?

A. It does.

Q. And you found it was very difficult in some cases to ascertain original costs, didn't you?

A. Yes, sir, in one case.

Q. Which case was that?

A. The Harlem Gas Light Company, and in that case my
4465 figures differed from Mr. Yalden's to the amount of $180,000, giving the company the benefit.

Q. And did you not find the books of the constituent companies entirely satisfactory in every detail?

A. In that one case, I did not; in the others, they were very well kept.

Q. You were informed, were you not, that in reference to the Metropolitan Company's books and some others which were not to be had, a careful search was made and the company was unable to find them in their files?

A. I was.

By Mr. BURR:

Q. You do not know whether a careful search was made or not?

A. No.

Mr. MATHEWSON: I did not ask him that, but whether he was so informed.

By Mr. MATHEWSON:

Q. In other words, there was no refusal to give them, so far as you have observed?

A. So far as I observed. I was informed that a careful search had been made.

Q. Do you mean to say that you found the real estate account of the Knickerbocker Company in the books of the Municipal Company?

A. A study of Yalden's report states so.

Q. Well, but did you find it in the books of the Municipal Company?

A. I cannot distinguish it.

Q. You cannot?

A. No.

Q. Now, yesterday, if I understood you correctly, you said that the general practice of gas companies was not to make any profit on merchandise business, which would include stove sales, and you subsequently said that the company should not charge gas stove repairs to operating expense because the company makes a profit on
4466 the sale of the stoves. How do you reconcile those two theories or answers?

A. The point is, the companies certainly aim to make a very small margin of profit, and they do not run the business to get a return on capital invested in gas stoves.

Q. They do make some profit, or are supposed to?

A. A very, very small margin.

Q. And that is the explanation, and the only explanation, is it, of the two replies to which I have called your attention?

A. Yes, the company aims to come out just on the right side.

Q. Don't you know that some companies put stoves in at no charge whatever to the consumer, merely for the purpose of inducing a large consumption of gas?

A. The selling price of that stove includes the putting in.

Q. I am speaking about putting in the stove at no cost or price whatever to the consumer, delivering the stove gratuitously to the consumer and allowing him to use it gratuitously for the purpose of increasing the sales of gas.

A. I never heard of such a case.

Q. Now, did the Municipal Company's accounts indicate the location of the real estate shown on the books of that company, the cost of which you undertook to ascertain?

A. I would prefer to refer to my original data to answer that.

Q. Have you not your original data here so that you can tell?

A. No.

Q. You did have a schedule of the real estate of both the Knickerbocker and Municipal Companies, did you not, so that you would have been able to ascertain whether the Knickerbocker real estate was included in the Municipal schedule?

A. I can ascertain that with reference to that data.

Q. Haven't you done so, so that you can reply now?

4467 A. I did go into it, but I do not recall just at the moment.

Redirect examination by Mr. BURR:

Q. Mr. Mathewson has asked you did you find the books of the constituent companies very satisfactory. I ask you did you find the books of the Consolidated Gas Company very satisfactory?

A. In some ways.

Q. And in some ways not?

A. And in some ways not.

Mr. MATHEWSON: Do not lead him. He is your witness; let him testify.

Q. In what way did you find the books unsatisfactory?

A. Unsatisfactory?

Q. Yes.

A. There did not appear to me to be a proper method of accounting for the stock and material purchased.

Q. Will you explain that a little more in detail?

A. When the material was purchased it was charged up to the account, for example, repairs to apparatus or meters, whereas it ought to be charged to a stock account, and then when used charged out to the different accounts, the different operating or construction accounts of the company.

Q. Was that a proper method of keeping that account or a loose method of keeping that account?

A. It appears to me to be a loose method.

Q. A method, would you say, whereby the company——

Mr. MATHEWSON: Wait a minute. Supposing you let him testify about this. I want his views, if we are going to have them, and not yours. He saw the books and you did not.

Q. Would you say by that method the company would lose money?

4468 Mr. MATHEWSON: Well, is not that a little bit extreme?

Mr. BURR: What is the difference between well-kept books and ill-kept books, between loose methods and strict methods?

The MASTER: You may ask him if you choose what the effect on the business of that method would be.

Q. What would be the effect on the business of the Consolidated Gas Company through the books being kept in that manner which you have described, with regard to that particular account?

A. There would be a tendency of storekeepers and superintendents to take advantage of the company.

Q. Because they could take advantage of the company without being readily discovered?

A. Exactly, because no correct note is kept of stock which goes in and goes out, so far as my information goes, it is that no stock books are kept, consequently they cannot check up the quantity of stock on hand.

Q. And did you discover that each station kept its own books, its own set of books, showing repairs, or what method did you find was adopted and carried out by the Consolidated Gas Company in regard to labor and material used at the station?

A. My information is, from Dr. Marks and Mr. Lacombe, that station books are kept.

Q. In adding these figures which Mr. Mathewson has asked you to add to your 52.50 cents, do you wish to be understood as approving the addition of those figures?

A. Certainly not.

The MASTER: He made that very clear, Mr. Burr.

Q. Are you aware of the circumstances under which these figures were presented in this case?

A. I am not.

4469 Q. Or in any other case?

A. I am not.

Q. I want to ask you in regard to the mains, the abandoned mains of 1903 and 1904; where were those charged up or when were they charged up in the books of the company?

Mr. MATHEWSON: The statement shows in 1905, $59,000, and we have gone all over that.

Mr. BURR: So that you apparently understand that, Mr. Mathewson?

Mr. MATHEWSON: Yes, it is perfectly clear in the report as to his charging them off; that is lucid.

Q. You were asked with regard to wear and tear. Is wear and tear allowed for in the 1.71 cents which you have allowed in your 52.50 cents?

A. It appears to be, from the resolutions from the company embodied in the report.

Q. You refer to the resolution appearing on page 34 of your report?

A. I do.

Q. Your attention was called to the stove repairs yesterday. Does the company treat all its receipts separate from its expenditures?

A. It does not.

Q. Does it not, as a matter of fact, deduct the amount it receives from jobbing, including its profit, from the cost of operating?

A. Yes.

Q. And as a matter, does it carry over the balance of the jobbing account to the cost of distribution?

A. It does.

Q. Then, according to that, it treats the receipts from jobbing and stove rentals in a different manner?

A. It does.

Q. If all the charges and credits which appear in the account of the Consolidated Gas Company for its stoves were included in one account, what would be the result shown?

A. The expenses would amount to $217,635.40 and the
4470 rents $122,332.60, leaving a balance at the debit side of $95,-
302.80, or .75 cents per thousand cubic feet of gas distributed.

Q. So that the 52.50 cents, cost of gas as found by you, actually includes .73 cent for cost of the stove department?

A. Yes.

Q. Is the full amount of the tax assessed for 1905 included in the cost of 52.50 cents?

A. Yes.

Mr. MATHEWSON: He means applicable to the gas business; those other items were excluded.

Mr. BURR: He means just what he said.

Q. That being so, if there was an additional charge made on account of the cost of contesting the levy of previous years' taxes, the accounts of 1905 would bear more than their fair proportion, would they not?

A. They would.

Q. Can depreciation always be equalized by actual expenditures in each year?

A. Would you mind reading th

Q. Can depreciation always be equalized by the actual expenditures in each year?

A. No.

Q. As a matter of fact, the expenditures for renewals will exceed the average allowance required in some years, will they not?

A. They would.

Q. And in other years they will be less than the requirements?

A. Yes.

Q. How, in your opinion, should this discrepancy be equalized?

A. By forming a renewal fund each year and charging up to that fund all renewals and replacements, that renewal fund to be a fair average for previous years.

Q. That is, by charging a sum equal to the difference between the average amount required and the actual expenditures?

A. Yes.

Q. And when the expenditures exceed the requirements, what would be done with the excess?

A. Stand to the debit of renewal fund.

4471 Q. Charged to reserve or renewal fund account?

A. Yes.

Q. That is, the fund created for that purpose in previous years?

A. The fund created for that purpose in previous years.

Q. When does an allowance for depreciation or contingencies first appear on the books of the company?

A. You refer to the 10 cents per thousand?

Q. I refer to the 10 cents per thousand.

A. May, 1905.

Q. Does that appear in any schedule annexed to your report?

A. No, not annexed to it; it is referred to in the body of the report (handing book); it is referred to there.

Q. Is that allowance of ten cents, in your opinion, an excessive amount?

Mr. MATHEWSON: Wait a minute. This witness is not in the gas business and is not an engineer, and he is asked whether an allowance of ten cents per thousand for contingencies in the gas business is an excessive allowance or not. I submit he is incompetent.

The MASTER: Is that competent?

Q. Can you say whether or not that is an excessive amount?

Mr. MATHEWSON: Wait just a minute. The witness is not entitled to reply to that because it is for the Master to say whether he is competent on his qualifications shown here.

The MASTER: It does not seem to me, in view of his statement, he is competent.

Mr. BURR: I will withdraw the question. We have already gone over that very thoroughly.

Q. What is the name of the account in the Consolidated

4472 Gas Company to which the charge of $282,420.83 finally deducted under contingency and renewal account were originally made?

A. Depreciation.

Q. You say the renewal and contingency account first appeared in the books of 1905?

A. It did.

Q. What is the amount included by you in the account for 1905 for repairs, and what is the amount per thousand cubic feet?

A. Repairs amounted to $715,151.44, or 5.61 cents per thousand cubic feet manufactured and distributed.

Q. Are any renewals and replacements included in these expenditures?

A. Yes.

Q. And is the amount of these repairs and renewals along with the amount included as depreciation sufficient, in your opinion, to have kept the plant in a thorough state of efficiency and to have replaced all waste which may have taken place during the year?

Mr. MATHEWSON: Objected to, as the witness is wholly unqualified.

Mr. BURR: This does not require a gas expert or professor to answer.

Mr. MATHEWSON: Yes, it does.

The MASTER: He can answer it if you think it is of importance, simply from the standpoint of an accountant, comparing it with other plants, but I do not think it amounts to anything unless he can show that the ratio of those things in the gas business is the same in every other business which he examines.

Mr. BURR: I will ask him what he bases his answer on.

The MASTER: How is his answer of value unless you do show that?

Mr. BURR: I will ask for the reason.

4473 Mr. MATHEWSON: I would like an exception, on the ground that the witness is incompetent to reply.

The MASTER: I will let him answer.

Mr. MATHEWSON: Did you sustain the objection or overrule it?

The MASTER: I overruled it and you except.

The WITNESS: What is the question?

(Question read.)

Mr. MATHEWSON: I did not understand that he was to ask that question. I except to that. That is clearly incompetent.

The MASTER: One moment. I will sustain the objection. You can take it over the objection.

Mr. BURR: And I except.

Q. What is the answer?

A. It does.

Q. On what do you base that statement?

Mr. MATHEWSON: Same objection and exception.

The MASTER: Same ruling.

Exception.

A. The fact that in all large corporations the repairs in any well sustained plant practically keep it up to date and the margin of depreciation is trifling, it would be very, very small in a large corporation, and that margin is provided for in the depreciation written off by the company.

Q. That is in that 1.71?

A. Yes, sir.

Q. And therefore, in your opinion, there is no further allowance necessary to offset the gradual depreciation caused by wear and tear in the capital assets, which you admit should be made good out of revenue?

A. No.

Mr. MATHEWSON: Objected to both as leading, and as the witness is incompetent to testify.

4474 The MASTER: Objection sustained.

Mr. BURR: Exception. You called his attention to the situation as found in his report at Chicago, and I called his attention

to it as he found it here, and am asking whether any additional allowance should be made over the 1.71.

Mr. MATHEWSON: I have not asked him any such questions.

The MASTER: The question was asked and it is ruled upon. There is no need of further discussion.

A. There is no further allowance required.

Q. Is there anything in the accounts of the Consolidated Gas Company submitted to you to show that an amount equivalent to $3,424, charged on account of plant to the contingency and renewal account, was actually expended during the year 1905 on the replacement of old plant by new?

A. Do you mean by a similar piece of plant—do you mind repeating that?

Q. (Question repeated.)

A. No.

Q. I am especially referring to the items as they appear in the resolution attached to your report on page 34.

A. Yes.

The MASTER: I do not understand what you mean by an amount equivalent to the amount of $3,000.

Mr. BURR: Well, I mean was that amount or any such amount.

The MASTER: An amount equivalent to the amount of $3,000 is $3,000, is it not?

Mr. BURR: Yes. I will change that.

Q. To show that the amount of $3,424 charged on account
4475 of plant to the contingency and renewal account was actually expended during 1905 on the replacement of old plant by new?

A. No.

Q. Is there anything in the accounts of the Consolidated Gas Company, as submitted to you, to show that the amount of $90,561.54 charged on account of mains to the contingency and renewal account was expended during 1905 on the replacement of old plant by new?

A. No.

Q. I ask you the general question, was there anything in the accounts of the Consolidated Gas Company, as submitted to you, to show that the amounts respectively, of $37,401.00 for services, $25,646.20 for meters, $31,570.89 for meter cocks and connections; $5,338.62 for horses, wagons and harness; $8,140.87 for office furniture and fixtures, and $24,483.65 for tools and implements, were actually expended during 1905 on the replacement of old plant by new?

A. No.

Q. And the same situation applies to gas stoves and automobiles?

A. It does.

Q. Gas stoves, $54,954.98, and automobiles, $697.92?

A. Yes.

Q. In your testimony yesterday, Mr. Hall, at the bottom of page 4433 and top of 4434 you were asked:

"Q. You do not think they would be chargeable to operation even if they were not extraordinary expenses? A. Under no condition.

Q. They then should go to increase capital account? A. Yes.

Q. And wherever you have excluded items on the ground they are not proper operating expense, but should have been charged to construction, by so much the capital account of the company should be increased? A. Naturally.

4476 Q. And that would be true for as many years as such items have been charged by the company in a similar manner? A. No."

Will you be a little more explicit in regard to what you actually mean?

A. Let me see it, please? (Testimony handed to witness.) (Reading) "Q. And wherever you have excluded items on the ground they are not proper operating expense, but should have been charged to construction, by so much the capital account of the company should be increased," with regard to items which should originally have gone to construction only, with regard to items such as legal expenses, which we excluded.

Q. But you had in mind only those items——

A. Only the construction charges I had in mind.

Q. Which should have been properly charged to construction?

A. Yes.

Mr. MATHEWSON: We concede that we ought not to capitalize legal expenses, and that is why we charge them in operating expenses. We have to do one or the other.

Q. For what purpose do you understand Field's Analysis is prepared?

A. For the purposes of comparison and for the purposes of complying with State requirements.

Q. Statute requirements?

A. Statute requirements.

Q. Mr. Mathewson has called your attention to situation claimed by him to exist in regard to the meters in June and July and the met-red gas in June?

A. Yes.

Q. What have you to say as to that?

A. Were the met-red gas at the end of any month taken into account my statement as submitted in Exhibit B would be decidedly different, and would be altered. Of course, the unmet-red

4477 gas in one month offsets the unmet-red gas in any other month. Were the total sales for any other month taken in, take the month of December, all the met-red gas for the month of December, the result would be quite different; there would be no such balance as I give here.

Q. Turning to Exhibit B, showing the gas made, purchased, sold and so forth, will you add the gas made and purchased in June, 907,163,250 feet, July, 615,470,770 feet, August 689,883,910 feet,

September 906,466,471 feet, October 1, 199,791,920 and see if it amounts to 4,318,776,321 feet?

Mr. MATHEWSON: Were those figures taken from the schedule Exhibit B?

The WITNESS: That appears to be right.

Q. Now, add the gas sold during those months; June, 1,024,624,-520 feet; July 813,279,310 feet; August, 784,027,539 feet; September, 942,837,678; October, 1,089,808,184, and see if it amounts to 4,654,577,221?

A. It does.

Q. Does this include any gas used by the company or lost by leakage or condensation?

A. No.

Q. Subtract from the sales of gas the feet of gas made and purchased during those five months, June, July, August, September and October and see if the excess of sales over gas made and purchased was 335,800,910 feet?

A. It was.

Q. Is this excess of sales over 42 per cent. of the total sales in August?

A. It appears to be about 42 per cent.

Q. How much gas was on hand June 1st?

A. 24,268,390 feet.

Q. How much was on hand November 1st?

A. 109,983,736.

Q. Was the increase in gas on hand 85,715,346 feet?

A. It was.

4478 Q. Add this to the excess of sales over gas made and bought of 335,800,910 feet, and does the total amount to 421,516,-256 feet?

A. Yes.

Q. Is this the real increase of gas made and bought over sales in five months?

Mr. MATHEWSON: Whether or not it is appears from these figures what it is.

Mr. BURR: From that exhibit.

A. Repeat that question.

Q. Does this appear to be the real increase of gas made and bought over sales in five months as appears by that exhibit?

A. The increase of sales over gas made and bought?

Q. Increase of gas made and bought over sales in five months?

A. No.

Q. What does it show?

A. It shows you have sold more than 421,000,000 feet in excess of what you have made.

Mr. MATHEWSON: And bought.

Q. That is the same thing, isn't it?

A. I probably took it up wrong.

Q. Is this over half of the total sales of either July or August?

A. Yes.

Q. Would in your opinion therefore a difference of two or three days in the meter readings account for this excess of gas made and bought of over fifteen day's consumption?

A. No.

Q. What is the explanation that you can give?

A. That is what I cannot give. I have been trying to find out what its explanation is for some time past.

Q. Never have been able to get any explanation from the company?

A. I cannot get it.

Q. Now, your attention has been called to the real estate
4479 accounts. You examined, as I understand, carefully all the books and data which were submitted to you on that subject by the officers of the Consolidated Gas Company?

A. Yes.

Q. And you have stated in your report there the books which you examined and the books which were missing?

A. Yes.

Q. And the manner in which you have arrived at the conclusions stated in your report?

A. Yes.

Mr. BURR: That is all.

Recross-examination by Mr. MATHEWSON:

Q. Do you mean to say that the company makes no correct note of the material and supplies that it receives?

A. Nothing that I could consider a correct note.

Q. Don't you find that it has a record of the supplies which it has received and the amount of such supplies?

A. I have not seen it.

Q. Do you mean to say that they have no record of the supplies or material which go out to make repairs?

A. I understand they have.

Q. You understand they have?

A. They have, yes.

Q. And you do know that every particle of material which is used in repairs or new constructions is accounted for and they have a note of it?

A. I understand so.

Q. Did you visit the branch station and see what accounts they had there?

A. I was not allowed to.

Q. You did not have time to, did you?

A. I could have made the time if I had been permitted.

Mr. BURR: He made the demand and was refused.

Q. Well, how did you make the demand?

A. The demand was made in my behalf by Dr. Marks, I understand.

4480 Mr. BURR: And I make it also and you objected because he was not a gas engineer.

Mr. MATHEWSON: We never made any objection to his going to the stations at all.

The WITNESS: I would have been delighted to have gone there.

Q. As to jobbing items, being placed in the cost of gas, did you know that jobbing was done without any profit but at a cost to the company?

A. The profit was ten per cent. in some cases.

Q. For jobbing?

A. For jobbing.

Q. Do you think, that the company, according to the figures you examined, makes a profit on jobbing?

A. In certain pieces of jobbing they made a profit of ten per cent.

Q. Over cost of labor and material?

A. Over the amount of the bill they paid to Smith Brothers for doing the work.

Q. What was that?

A. Several heaters and other pieces of appliances on which Smith Brothers did the work and supplied the material, the company billed out at a profit of 10 per cent.

Q. This was the case in which you say they carried the balance in to the cost of gas?

A. Yes.

Q. In other cases, don't you find as a general rule that the jobbing was done at cost?

A. As a general rule, the small jobbing.

Q. When you say that the taxes of the company are included in the 52.5 cents which you stated, you do not include all the taxes of the company, do you, whether assessed on the securities of other companies or otherwise?

A. Excluding those assessed upon the securities of other companies, yes.

Q. And also excluding interest?

A. Excluding interest, yes.

4481 Q. When you say that 10 cents per thousand appears in the company's books first in May, 1905, you find, do you not, that the custom of charging 10 cents per thousand to cover depreciation and contingent expenses and so forth was at that time entered so as to cover the year from January 1st?

A. It was.

Q. The system was changed on January 1st?

A. It dated back to January 1st.

Q. When you gave your opinion over objection that the amount for repairs and depreciation was sufficient to keep the property up, you said among other things that in large companies the depreciation was small. What company have you ever managed, gas company or electric company?

A. Never managed any companies.

Q. Have you read Professor Bemis' testimony in the Boston case as to the amount expended even by English companies for repairs, depreciation and so forth?

A. I have not.

Q. You did not know that he testified it was nearly 13 cents for large English companies, then?

A. I don't know anything about his testimony.

Q. Do you know what the English companies do charge for depreciation and repairs and renewals per annum?

A. No.

Q. Don't you know that many of them charge more than 12 cents?

A. I do not.

Q. Did you not figure out that with your repairs at 5.61 cents and depreciation at 1.71 cents it amounted to only 7.32 cents per thousand?

A. I did.

Q. Don't you know that large electric companies frequently have to virtually scrap and rebuild their electric plants within ten years time by reason of the progress in the art?

A. Yes.

Q. Don't you know that in the gas business there have been processes which 20 years ago were considered excellent, which
4482 were totally discarded within 10 years and other apparatus had to be substituted?

A. I did not know it.

Q. Your experience as an operator of gas works has been nothing?

A. I never operated a gas works.

Q. And you never constructed a gas works?

A. Never.

Mr. BURR: I believe he said the same about electric light companies also.

Mr. MATHEWSON: Yes.

Q. Now referring to page 34 of your report and the charge to depreciation of $3,424 for plant in 1905 do you mean to say that a similar amount or greater was not expended in new construction in 1905?

A. I did not.

Q. Well, if it was, then whatever depletion of plant arose, the $3,424 charged to depreciation would be replaced by the new expenditure to that extent, would it not, in order to bring the plant up to the same figure it stood originally?

A. What I did say was there was no identification between a particular article of plant, the new item which went in, and the depreciation of those old items.

Q. But that would not make any difference as to charging the $3,424 into depreciation and into operating expense?

A. None.

Q. And the same answer would be true of all the other items, pages 34 and 35, would it not?

A. Yes.

Q. Now, you have stated that in arriving at a proper charge for depreciation, as you term the account, it is necessary to take a term of years, is it not, in order to arrive at a fair average?

A. Yes.

Q. And if you were examining a gas property for an individual purchaser and found the amount charged for depreciation in the last year very much smaller than the average for a larger term
4483 of years you would not think of advising the purchase, would you, on the basis of the expenditure of the last year alone?

A. I would not.

Q. You would want to make an average?

A. I would.

Q. Now, when you say that this Exhibit B shows greater sales for certain months than the apparent make, you mean to say that the books of the company do not show what the explanation of that is so far as you have gone?

A. I do.

By Mr. BURR:

Q. You have had no opportunity of comparing renewals for instance as claimed by the Consolidated Gas Company to have been made for the past 22 years, to obtain any average, have you?

A. I have not.

Q. When you say that you understand that such accounts were kept with regard to stock and material as Mr. Mathewson has referred to, that was what you were informed by Mr. Carter?

A. Yes.

Q. Was the situation?

A. Yes.

Q. Of that you know nothing of your own knowledge?

A. Of my own knowledge I know nothing.

Q. And as a matter of fact you had a good deal of difficulty with regard to a considerable number of vouchers for material, didn't you?

A. I had.

Q. In ascertaining what disposition was made of the material represented by those vouchers?

A. Yes.

Q. And that as a matter of fact was the occasion for referring the matter to the Board of Advisory Engineers?

A. It was.

Q. And it was long after that that you discovered a separate set of books was kept in the stations?

A. Yes.

Q. Mr. Carter never gave you such information when you
4484 applied for information in regard to that, did he?

A. He did not.

By Mr. MATHEWSON:

Q. You did not know that the books of the several stations were produced before the Gas Commission and have been produced here?

A. I did not.

Q. You were not informed by your counsel or by your client or by anybody else?

A. I was not. I asked the question of the Secretary and he informed me there were no books.

Q. No books kept at the stations?
A. He did, that there was no account kept of the stock of material.
Q. At the general office, didn't he?
A. He did not qualify it.

By Mr. BURR:

Q. You asked for information on that subject and he told you that there was no account kept of it?
A. Exactly.

By Mr. MATHEWSON:

Q. You do not mean to say he told you there were no books kept at the several stations?
A. He said no account of what went into the repairs.
Q. You mean to say he told you there were no books kept at the several stations, account books?
A. He made the statement there was no note kept of that stock, which was the question I asked him.
Q. That was all?
A. Yes, and reiterated the statement.

By Mr. BURR:

Q. And that was the reason for inspecting the plant for
4485 the purpose of ascertaining where this material went to?
A. Yes.

By Mr. MATHEWSON:

Q. And you were not informed by Doctor Marks, who was present all through the Gas Investigation, and with whom you consulted, that the station records of the Company did show those things and that they were put in evidence before the Gas Commission, were you?
A. I was not.
Q. And was not your talk with Mr. Carter with reference to the accounts at the general office?
A. With reference to all accounts.
Q. Now, as a matter of fact, referring to this renewal or depreciation account since 1884, you were at liberty to examine that if you had time, were you not? It was not denied you?
Mr. BURR: We are only permitted to examine for the year 1905.
A. My instructions were for the year 1905 and that I had no access to books of previous years.
Q. You did not know that the repairs and renewal accounts from 1884 down to date was subject to your inspection, and you were not informed by your counsel to that effect?
A. I was not.
Q. It was not denied you, was it?
A. I didn't ask for it.

Mr. BURR: Will you let us——
Mr. MATHEWSON: Wait a moment. I submit that I should get through with this matter first.
The MASTER: I am tired of this whole question of the refusal to

permit inspection of books and plant. I have nothing else but that reiterated for weeks and months and I do not like to waste any more time on it. Now let Mr. Mathewson finish his cross-examina-
4486 tion, and Mr. Burr may then redirect the witness on that point as long as he desires.

Mr. MATHEWSON: Your Honor will remember it was expressly provided and stipulated when we settled this that that account would be subject to inspection if they desired it.

The MASTER: I told the parties early in the sessions that they could have any books they wanted and if they did not get them I would see that they got them. That is the reason it is irritating to have so much time spent on the question as to what books have or have not been refused.

Mr. BURR: Do I understand that they had no objection to this account being examined?

Mr. MATHEWSON: I am not going to make any further statements. I have gone over and over the matter and got sick of having you state refusals were made when I know they were not made. If you read the record, I prefer to refer to that.

Mr. BURR: My recollection is that the Master said we would be confined to the year 1905, and later on if we could show there was any necessity for going further we could come in here and apply to him, particularly with reference to having another year examined with reference to 1905.

Mr. MATHEWSON: That is another proposition.

Mr. BURR: That is the way that matter has remained to the present time. I am through with this witness.

By the MASTER:

Q. I notice that in your report here you say in regard to
4487 Item 69, "Fixed Charges," that you have excluded that as not coming within the scope of your inquiry as to the cost of manufacturing and distributing gas. Will you just explain to me what you did consider the scope of your inquiry was?

A. It was to determine exactly what it cost to manufacture and distribute gas to the private consumer of New York.

Q. You mean in the abstract or what it cost this Company?

A. What is cost this Company. .

Q. And, as I understand, then you took in no account of any question involving capital invested at all?

A. I did not.

Q. Not at any point?

A. Not at any point.

Q. As I understand, while you allowed certain taxes, you excluded all consideration of franchise taxes?

A. No, sir; I included franchise taxes at the amount they were assessed for the year 1905, $406,000, page 33 of the report.

Q. But the charges in connection with franchise litigation you did not include?

A. I did not include.

Q. And what is your theory about that?

A. The franchise litigations were in respect to litigations of past years.

Q. And, therefore, although paid in the year 1905, were not considered as part of the expenses of the company?

A. That's it.

Q. Then suppose the company litigated its franchise tax for 1905 and they did not pay the bills until 1907?

A. As a matter of fact, sir, I do not think the franchise tax or any expense in contesting it is a fair charge against the consumer. Assuming the rate of gas to be 80 cents or 90 cents, any saving would be to the benefit of the stockholder, not to the consumer.

Q. Very possibly. But assuming that the franchise tax or some other tax was ordinarily litigated from year to year, if you
4488 selected any one year, for instance, like 1905, and did not make any allowance for litigation on that account, wouldn't you be rather underestimating the ordinary expenses of the company?

A. I do not think so. I do not consider franchise litigation normal expenses for this purpose.

Q. How long did you say you were working on this investigation?

A. I was at the office of the company between five and six weeks and another week in our own office preparing the report; between six and seven weeks.

Q. And did you start at work as soon as you were retained on behalf of the defendant?

A. The day we got instructions, yes, sir.

By Mr. BURR:

Q. And you worked night and day, didn't you?

A. Yes.

Q. And it took you all that time to examine the year 1905, Exhibit 94?

A. It did; and the real estate.

Q. Did you have time to do anything else but that during those six weeks that you have been actively employed with the shift of from twenty-three to thirty-three men?

A. By working longer hours I might have done a little more.

Q. As a result of that continued examination you arrived at some conclusions, did you not, with regard to the necessity of further examination of some items for the purpose of testing those items as they appear in the books for the year 1905?

A. I do not follow you.

Q. I say, as the result of the examination of the books for 1905, did you not, as a matter of fact, arrive at some conclusions with regard to the necessity for examining certain accounts in the
4489 books for previous years, for the purpose of testing the accuracy of those same accounts as they appear in this year, 1905?

A. I did.

Q. Particularly with reference to the oil and renewals?

A. Yes.

Q. And do you still think it absolutely essential to a correct and

thorough understanding of these accounts that a comparison should be made of those accounts in the books of other years?

A. I do.

Q. Of some other year?

A. I do.

Mr. BURR: We now ask you to consent, in view of this, which I reserved until this time, to a comparison and examination of the books of the Consolidated for some year since 1900, for the purpose of testing the oil account, and for the right to examine the books for the past fifteen years to ascertain the exact condition of the renewals account.

(No response from counsel for the complainant.)

Mr. BURR: I make that application to the Master. We are ready to proceed at once to carry out that——

The MASTER: Specify the books.

Q. In what books would the oil account be kept, Mr. Hall, for the past years?

A. Operating ledgers in the general office; manufacturing records.

Q. What books would the renewals account be kept in?

A. Operating ledger.

Q. So that if you had the operating ledger for say the year 1902 you could obtain all the information you desired with regard to the oil contracts and the oil supplied and used by the company during that year?

A. With the assistance of the subsidiary books.

4490 Q. What books would those be?

A. Manufacturing records.

Q. Those manufacturing record- would consist of what books?

A. The five stations, showing the manufacturing records, the averages, the quantities they buy and the Beaume test and so on.

Q. Showing the amount of oil and the kind of oil used in the manufacture of the gas?

A. Yes.

Q. What book or books would the renewals appear in?

A. Operating ledgers.

Q. That would also apply to the subsidiary books?

A. Yes.

Q. What books would those be?

A. General books and vouchers.

By the MASTER:

Q. How long would it take to make this examination?

A. Renewals and repairs for fifteen years, and one year of oil?

Mr. MATHEWSON: Repairs and renewals for twenty years. If anything, take the whole period. Depreciation account I suppose you refer to.

The WITNESS: From ten days to a fortnight.

The MASTER: Then it is useless to pass upon it. Defendant's time expires on Monday. I shall not certify any more unless you

can get all counsel to stipulate to withdraw all the other witnesses and to devote the rest of your time to this matter so as to finish up on Monday. The application is merely academic as far as I am concerned.

By Mr. BURR:

Q. You could finish the examination of the oil account by
4491 the end of the week, couldn't you?

A. Yes. And to a certain extent the repairs and renewals by the end of the week; we could do something by the end of the week.

Mr. MATHEWSON: If the Master please, the matter of oil is as to what we are paying for oil. It is what we are paying. It has been suggested we ought not pay so much. That is another proposition. It is not what we paid for oil in 1903 or 1904, or what we could get oil for then. It is what we have to pay for it now, and the idea of examining in 1902 the oil account to know what we have got to pay for oil now is ridiculous.

The MASTER: It seems hardly worth while to discuss it in view of the situation the case is in. I assume that counsel have got all that they can do to get through with the witnesses they have on hand, and it certainly seems a useless waste of time and money to start in on a further examination of these voluminous books without any prospect that there will be any opportunity for the witness to come and give the results of his examination.

Mr. BURR: He says he believes he could have his report on the question of oil ready and be able to testify regarding it on Monday—have it ready by the end of the week and be ready to testify on Monday. It would be very short. And probably something on the question of renewals he would have by Monday and be able to testify regarding.

The MASTER: Will you and counsel for the State unite in a stipulation on the record that the case shall be closed in all respects this
week and nothing left but to take up this witness and that
4492 will close the cases of both defendants?

Mr. BURR: I understood we had even under the limitation in your certificate until Monday, didn't we?

The MASTER: Yes.

Mr. BURR: I say if his report is in to me on Saturday and he is ready to testify on Monday I do not think we should stipulate that we shall close the case as a condition for allowing him to testify Monday.

The MASTER: But I assume the counsel for the State may very possibly, if you have other witnesses, or the State has other witnesses, raise objection to your taking up this witness on Monday with an unfinished witness on the stand left over from this week, provided you understood you were absolutely to close your case on Monday.

Mr. BURR: Well, we will see what can be done in that regard?

The MASTER: You had better consider it and if there is any prospect of the evidence resulting being used I shall grant the applica-

tion. If there is not I think it is hardly worth while to waste time over it.

Mr. MATHEWSON: But certainly there would be no sense in going back to 1902 in any event, as to oil.

The MASTER: I should have to look into it far enough to be satisfied of its materiality.

Mr. MATHEWSON: Everybody knows oil is going up. Ten years ago you could buy naphtha for what we could buy only half that grade of oil now.

Mr. BURR: In view of the statement of counsel for com-
4493 plainant we have strong reason to believe that the amount paid for oil is excessive and that the Consolidated are in receipt of a rebate from the Standard Oil Company, and that is what we want to have a comparison for.

Mr. MATHEWSON: I think we went over that very thoroughly with Mr. Cuthbert. He went into all that.

Mr. BURR: I would not have alluded to it again if you had not made your little speech.

Mr. MATHEWSON: You may repeat it all you desire, Mr. Burr.

CHARLES F. LACOMBE recalled on behalf of the city.

Direct examination by Mr. BURR:

Q. During the progress of this examination of the books by the accountants, Marwick, Mitchell & Company, you, I believe, acted as chairman of the Board of Advisory Engineers, composed of yourself, Dr. Marks, and Mr. Edgerton?

A. Yes, sir.

Q. And the purpose of that organization was to aid the accountants, I understand?

A. Yes, sir; purely.

Q. You kept records of the proceedings of the various meetings that you held?

A. Yes, certainly. We kept minutes clear through.

Q. And you were in constant communication with the accountants, were you?

A. Yes.

Q. Do you recall what matters were submitted by the accountants, to you, for your consideration, growing out of their examination of the books?

A. Well, a very large number of detailed items going into very nearly everything, operating, construction, stoves, meters, and
4494 what the Consolidated Gas Company calls distribution accounts. Those were the principal items that I remember.

Q. Now, will you take them up in their order as they were passed upon by you and tell us what you did or what the Board did?

Mr. MATHEWSON: Is that material?

The WITNESS: May I have the minutes to refresh my memory with?

Mr. BURR: Yes, here they are.

Mr. MATHEWSON: I object to it on this ground: it appears from

the witness' qualification and his previous testimony that he is not an expert in the gas business, has never managed a gas business, never constructed a gas plant, he is not practically familiar with the business, and he is not competent, according to my view, which in this instance concurs with that of Dr. Marks, to testify on this subject.

The MASTER: Well, I think in view of Mr. Lacombe's official position and experience here that his testimony can be regarded as competent on the general subject, but the question is objectionable in the form in which it is put. It is certainly not material to bring out by this witness the action of a so-called Board of Advisory Engineers or have him describe what they did. What I will allow is for you to take up the various questions that were raised and you can ask him, taking up those questions, I say, what his opinion is, based on his knowledge and experience as to the matters involved, but that is entirely irrespective of any action of the Board. That is not evidence for any purpose. You can take this up just as new matter, these various questions that were suggested there, and ask him what
4495 his opinion is as an engineer on those subjects, based on his knowledge and experience. That is all you are entitled to.

Mr. BURR: I wanted to first show just exactly what the situation was, it being desirous of having an honest and accurate account for the year 1905, that we did everything possible to aid the accountants to arrive at that conclusion, and that this Board of Advisory Engineers was organized for the purpose of helping them out wherever any matter relating to the practical operation of the gas works arose, with regard to which the accountants themselves needed advice or were at all in doubt. It does seem from their report, and Mr. Hall has testified, that various matters were referred to the engineers, and you have stricken out or refused to allow the report so far as it refers to the action taken by the Board of Advisory Engineers. I am now producing Mr. Lacombe, the Chairman of that Board, to state what action was taken with regard to these various disputed items.

The MASTER: I understand you are and I have ruled it is not competent in that form.

Mr. BURR: He can state what action he took upon the matters referred to by the accountants.

The MASTER: I do not care what action he took at all. His action is not material. You can ask him, as I say, his opinion as to the various questions involving expert knowledge or experience.

Mr. MATHEWSON: To shorten this, after looking it over, I do not know that I should object to the marking in of these reports, assuming that Mr. Lacombe says they are statements of actual pro-
4496 ceedings, as I assume he will; and that they represent what was done, if that meets Mr. Burr's views.

The MASTER: It will certainly save a great deal of time.

Mr. BURR: Yes, that is satisfactory.

Mr. MATHEWSON: That would not be admitting the weight which would be given to the advice of these gentlemen, but that they gave it.

The MASTER: Of course, you take the chance of their not all being produced here for cross-examination.

Mr. MATHEWSON: Yes, I know I take that chance.

Mr. BURR: Then I understand the objection is withdrawn as to the introduction of those minutes?

Mr. MATHEWSON: Yes.

Mr. BURR: So the stenographer, instead of marking that as that Exhibit A, minutes of the Board of Advisory Engineers, that Exhibit A is to be printed with the rest.

Mr. MATHEWSON: As to the action of the Board without, as I said, admitting the weight that would be attached to these.

The MASTER: That being done, the references in the body of the report to the action of the Board might be still allowed to stand and the report considered as in.

Mr. BURR: The statements in the body of the report are to the effect that these matters were referred to the Board of Advisory Engineers and these minutes show what action was taken upon those matters.

Mr. MATHEWSON: Very good.

Mr. BURR: Then I will ask Mr. Lacombe this one question, whether these various schedules that are attached to the report,

4497 particularly schedule E, were not necessary in helping you arrive at the conclusion which you did.

A. Well, this particular schedule was not. It was not referred to. There were schedules.

Q. You consulted the schedules that were prepared by the accountants, did you not?

A. Only such as they submitted to us.

Mr. BURR: Well, whatever they were. Now I have no other witnesses here. Of course I assumed we would go on with Mr. Lacombe now. I will tell you what I propose to do and consult with my friend Kirby and find out what he is able to do this afternoon. We will be ready to testify to-morrow morning with regard to the examination of the 14th Street plant. That is, I will be able to give testimony with regard to the valuation of the 14th Street plant, so that you may have your people here for that purpose, Mr. Mathewson, to-morrow.

Mr. MATHEWSON: What goes on this afternoon?

Mr. BURR: I do not know now.

At 12:38 P. M. no other witness being present, an adjournment was taken to 2 P. M.

4498 After Recess.

Mr. Page also present at afternoon session.

Mr. BURR: I desire to recall Mr. McHale for the purpose of testifying as to Block 989, page 2 of Exhibit 48. The city claims that by reason of the deeds and grants heretofore introduced in evidence the complainant has no title to a certain portion of that block.

MARTIN MCHALE, recalled on behalf of the City.

Direct examination by Mr. BURR:

Mr. MATHEWSON: You refer to the water grants which have been put in here recently?

Mr. BURR: Yes. A map is being prepared showing exactly the situation as we claim it exists by reason of these grants.

Mr. MATHEWSON: Showing no title to which block?

Mr. BURR: 989.

Mr. MATHEWSON: You mean Block 989, Lot 26?

The WITNESS: This is the property right here, indicating on Exhibit 48, page 2.

Mr. BURR: A copy of the water grants and maps are being prepared by Engineer Waters and we will present them later on. Meanwhile I want to use Mr. McHale's diagram, and ask him what change he desires to make in his testimony, if any, with regard to the valuation of that plot, assuming that this red line marked on this diagram, running through Block 989, shows that the Consolidated Gas Company does not own the section of that block embraced be-
4499 tween the red line extending from 15th to 16th Street, and to the east of that line.

A. I wish to change my valuation from $105,032.63 to $36,463.28.

Mr. BURR: I will ask to have this diagram marked for identification. When we have a copy of the original map presented by the engineer, it may be seen whether this shows the situation correctly or not.

Marked for identification, City's Exhibit 88.

By Mr. MATHEWSON:

Q. That is on the assumption that the company owns what is south of the red line?

A. Yes, sir.

Mr. BURR: South and west.

The WITNESS: On the assumption that the company does not own on the north of the red line.

By Mr. BURR:

Q. And the difference, then, is to be subtracted from the total valuation which you find as the valuation of the real estate?

Mr. MATHEWSON: It is not unless the Master finds we have not any title to the land. He has already testified that would be the difference, assuming that we do not own it.

Q. There is another correction I believe you wish to make as regards the valuation of some plot?

A. Yes, I made a mistake of $115,200 in Block 1704.

Q. That is your testimony as it appears upon page 2803 of the record?

A. Yes. My original figures on that property were $281,584. There was a mistake made in addition. It should be $396,784.

4500 Cross-examination by Mr. MATHEWSON:

Q. Then the net result would be to increase your total by an amount equal to the differences between this last amount——
A. There is a mistake of $115,200, to increase my total.
Q. That would be an increase of your total?
A. No, sir.

JOHN M. THOMPSON recalled on behalf of the City.

Direct examination by Mr. BURR:

Q. You have already testified with regard to the valuation of Block 989, as the same appears on Complainant's Exhibit 48, page 2.
A. Yes, sir.
Q. Assuming that the diagram marked for identification, City's Exhibit 88, correctly shows the situation as to the title and ownership of the parcel by the Consolidated Gas Company, what change, if any, would that make in your valuation?
A. I should think that that property there is worth——

By Mr. MATHEWSON:

Q. Do you mean Block 989, Lot 26?
A. Yes, sir, Block 989, part of lot 26, I should think that to be worth $34,270.

By Mr. BURR:

Q. Instead of?
A. Instead of $99,530.85.
Q. Do you wish to make any correction further than that in your previous valuation?
A. Not any change in the valuation but there is an error in addition in Block 1704.
4501 Q. What is the correct amount?
A. The correct addition is $396,784 instead of $281,584.
Q. As appears in your former testimony?
A. Yes, sir.
Q. On page 2803 of the record?
A. Yes, sir.

Cross-examination by Mr. MATHEWSON:

Q. That would make an increase in your total then of $115,000 and odd more than as you originally testified?
A. $115,200.

Mr. BURR: That is all the testimony I have to-day. I will have the engineers to testify as to the values of the plants to-morrow.

CHARLES D. CHAMBERLAIN, a witness, called on behalf of the State, being first duly sworn, testified as follows:

Direct-examination by Mr. PAGE:

Q. Where do you reside?
A. Cleveland, Ohio.
Q. What is your occupation?
A. I am Secretary and Treasurer and General Manager of the Globe Oil Company of Cleveland, Ohio.
Q. What is the business of the Globe Oil Company?
A. The manufacture and dealing in different kind of petroleum and its products; other oils.
Q. Do you manufacture and sell, or does the Globe Oil Company manufacture and sell, what is known as gas oil?
A. Yes, sir.
Q. What is gas oil, as distinguished from any other sort of oil?
A. Gas oil is the term that we apply to oil that is used for enriching coal gas by gas plants, and is not a distinction of absolute quality for differentiation because the gas oil can be a higher or lower gravity, according to the facilities that the gas companies
4502 have for vaporizing the oil or gasifying the oil and rendering it into a fixed gas. And gas naphtha is sometimes used for designating the higher grades such as 54 to 63 gravity, and then gas oil usually runs from 34 to 36 gravity, but it is a distillate oil. That is, a product of the still. Some gas companies can use a lower gravity oil, in which case we sell crude or residual oils of 28 to 30 or 32 gravity.
Q. Well, 28 gravity oil, do I understand then, is practically a crude oil?
A. Crude oil or a residual oil from which the lighter portions of the crude have been taken.
Q. Now, in the oil fields of Ohio and Pennsylvania do they produce a 28 gravity oil?
A. You mean as a crude oil?
Q. Yes?
A. No. The gravity runs lower in Ohio than it does in Pennsylvania. The gravity in Ohio runs from 34 to 38, sometimes as high as 39 in its crude state, and in Pennsylvania the average gravity is about 45, running from 41 to as high as 47.
Q. From what section of the country is the crude oil of 28 degree gravity obtained?
A. There is some 28 degree gravity crude oil obtained in Kansas, Indian Territory and some from some parts of Texas. I give this on information.
Q. Then as I understand, the 28 degree oil except such as may come from the Texas, Kansas or Indian Territory fields is residual oil after the lighter oils have been distilled?
A. Yes, sir, generally.
Q. Now, is the 34 degree oil a residual oil?
A. No, the 34 degree is a distillate oil.
Q. Well, if you take the Pennsylvania oils that run so much

lighter and distil from that the lighter portions, you then obtain a 34 degree oil that they would sell in this way?

A. No, the Pennsylvania crude is of too high values to
4503 sell the residual portions in that way. They would obtain a 34 degree distillate oil of little value from the distillation of Pennsylvania oils, but I would not have in mind any case where they would make a residual oil of the Pennsylvania products.

Q. Are you familiar with the prices at which oil is sold?

A. In a general way, yes, sir.

Q. Are you familiar with the prices at which oil is sold for export?

A. Yes, sir.

Q. What gravity oil is exported?

Mr. MATHEWSON: From Ohio or Pennsylvania? What do you mean, abroad?

Mr. PAGE: I mean export, exported from this country.

The WITNESS: Yes, it is 44½ gravity usually and what is known as 73 Able test or Standard white.

Q. That is a refined oil?

A. Yes, sir.

Q. At what price does that oil sell in large quantities for export?

A. To-day's quotation is 4.40 in New York, 4.35 in Philadelphia.

Q. That is 4.40 cents per gallon?

A. Yes, 4.40 per gallon.

Q. Do you know how that price corresponds with the price for the last year?

A. It is very nearly the average of the last year as I remember the quotations.

Q. You think there has been very little fluctuation?

A. Very little. I presume it has been as high as 4¾ within the year; I would not say absolutely, but it has run within the year, well about four—well, I guess, 4.65 is the highest I remember its having reached, and from that down to 4.35, that is about the lowest.

Q. Well, for gas making purposes, oil of 44½ degrees would produce better results, there would be less residual and more il-
4504 luminant obtained than from the lower gravity oil?

Mr. MATHEWSON: Is Mr. Chamberlain in the gas business also?

Mr. PAGE: No, he is in the oil business.

Q. Well, of course, I know that the higher gravity oil is more easily volatilized; I have — shown that in talking with gas men with whom I have been dealing.

By Mr. MATHEWSON:

Q. But you never had experience yourself in the use of oil in gas making?

A. No.

By Mr. PAGE:

Q. It is your experience that you have acquired in selling oil to gas men?

A. Yes, sir.

Q. And you are familiar with the fact that at first the very highest, naphtha was the oil that was used in making gas?

A. Yes, I have sold a great deal of naphtha for gas making.

Q. Until that became so expensive that they could not use it?

A. Yes.

Q. And that the higher degree, that is, naphtha, which was a very high degree, was the best for gas making purposes.

Mr. MATHEWSON: Just a moment. The witness said he sold it for that purpose. It does not seem to me he can testify it was the best, if he has not had experience in the gas making business. It would depend upon candle-power and one thing and another.

Mr. PAGE: It has been testified in this case that the best gas was made from naphtha, but it could not be used now on account of the price.

4505 Mr. MATHEWSON: No, he said he sold it for gas making, and it was the best because it was easily volatilized.

Mr. PAGE: I will not press it.

Q. What is the price of 34 degree Beaume oil?

A. The last that I sold I sold at 3.15 cents delivered, about twenty-five miles from the point of shipment; I think the rate of freight was about five cents a hundred pounds.

Q. What would be the price free on board at Cleveland?

A. It would be about three cents there.

Q. Are you familiar with the freight rates from Cleveland to New York?

A. The present rate——

Q. On oil I mean.

A. On oil, as I remember, it is twenty and one-half cents; the point of shipment was Findlay, Ohio, however, and the rate from there is 22 cents.

Q. 22 cents on what?

A. On 100 pounds.

Q. Can you get that in any way reduced to gallons?

A. Yes. A 50-gallon barrel would weigh 325 pounds. It would be a little over a cent and a quarter a gallon.

Q. As I understand, that is the freight rate of freight shipments as charged by the railroad companies to the independent refiners?

A. Yes, sir.

Q. And has nothing to do with the rates that may be charged to the Standard Oil?

A. No.

Q. And it does not take into consideration delivery by pipe line?

A. No.

Q. And delivery by pipe line is much cheaper than delivery by railroad?

A. Yes, sir.

Q. Do you know the price of 28 gravity oil?

A. 28 gravity oil would be about a quarter of a cent cheaper than 34 gravity.

Q. How do the prices that you have given for 34 and 28 degree gravity oil correspond with the prices during the last year?

4506 A. They are slightly higher than they have been heretofore by perhaps a half a cent a gallon, taking the lowest market price within the last year, it would be fully half a cent, perhaps five-eighths of a cent more than the prices I have given now.

Q. Have you had read to you the contract between the Consolidated Gas Company and the Standard Oil Company which appears on page 977 of the printed record in this case?

A. Yes, sir.

Mr. MATHEWSON: Which is that, the present contract?

Mr. PAGE: The 255,000,000 gallon contract.

Mr. MATHEWSON: Can you give me the date of that?

Mr. PAGE: The contract was dated November 1st, 1905, that is the one in existence now.

Q. And have the prices that you have given for 34 degree Beaume and 28 degree Beaume oil been for similar oil as described in this contract?

A. Well I presume so. What is known as 34 degree gravity distillate gas oil is I think commercially recognized to be about the same by all companies. The 28 degree I am not certain as to what it might be. It might be Texas, it might be heavy residual oil made from any of the other crudes and it might be a distillate oil from the Texas crude, so I would not be certain about that.

Q. To be positive I suppose it would be necessary for a person familiar with oil to have a sample of the oil which this Company is now using?

A. Yes, it would be desirable to have a sample of both, before being absolutely certain as to what they are.

Q. Well the price that you have given would be an oil which would answer this description as specified in the contract: "The gas oil we expect to furnish will be homogenous oil and of a

4507 gravity as agreed upon," that is 34 and 28 degree?

A. Yes, and homogenous there, I suppose, refers to the fact that it is not a mixed oil, that is, it is not an oil of higher and lower gravities united for the purpose of obtaining 34 degree, but cut out of the still at very near 34 degree gravity; within one or two degrees each way; because if it were a mixed oil and not homogenous, the lighter portions would vaporize and leave too much of a residual and it would interfere with the distillation of it.

Cross-examination by Mr. MATHEWSON:

Q. How long have you been in the oil business, Mr. Chamberlain?

A. About 22 years.

Q. All the time in Ohio?

A. Yes.

Q. You have never been engaged in the gas business?

A. No, sir.

Q. Does your company own oil wells?

A. No, sir. That is, the Globe Oil Company does not. I am interested in a company that does.

Q. From what section does the oil come in which you deal?
A. It comes from various sections; we buy oil from the Pennsylvania districts, some comes from Southern Ohio, and some comes from the Findlay districts.
Q. Do you deal with the Standard Oil Company?
A. No, sir.
Q. I observed in the press the other day that the Government suit in St. Louis against the Standard Oil Company recites that 90 per cent. of the oil in the United States is owned or controlled by the Standard Oil Company. Is that about right?
A. I don't know that that is the statement that is made.
Q. I so read it, and I ask you whether that is about right?
A. If you are referring to the producing of oil, I should
4508 say no. If you refer to the manufacture and sale of oil, I should say that it was very nearly; perhaps a trifle high; perhaps 85 would be nearer; however, I would not be able to give any figures to substantiate it.
Q. If the officers of the Government preliminary to this suit in St. Louis made a careful investigation and make that assertion in their papers, that would be entitled to considerable weight, would it not?
A. I should give it credence, yes, sir.
Q. Now, you do not mean to say that all gas oil can be economically converted into a fixed gas, do you?
A. All gas oil?
Q. Yes, can be economically converted into a fixed gas?
A. Now, you refer to the different quantities or grades of gas oil?
Q. Yes?
A. I would not think that they could all be equally economically converted.
Q. Is crude oil used for gas making?
A. Yes, sir, very largely.
Q. In the west?
A. Yes, sir.
Q. You do not know of any place in the East where high candle power is required, where crude oil is used in gas making, do you?
A. I am not familiar with any, no, sir.
Q. Do you know what quality of oil is exported for gas making?
A. I do not. I don't know anything about the export of oil for gas making purposes.
Q. It is a matter of common knowledge, is it not, that various manufactured products are sold abroad, in some cases at lower figures than they can be produced in America?
A. I have heard of those things, yes, sir.
Q. You have no doubt about it, have you?
A. I have no doubt about it.
Q. On what railroads are the freight rates 22 cents per 100 pounds from Findlay to New York?
4509 A. I spoke of that rate, I think it is all on the trunk line roads.
Q. That includes the entire freight from point of production?
A. Yes.

Q. Or the rate from Cleveland only?

A. No, from Findlay, that is my remembrance of it.

Q. You speak of the delivery of oil by pipe line being much cheaper. It is not your experience, is it, that the seller of any commodity, no matter what his facilities for transportation are, sells for a lower figure than he can dispose of his product and get a good profit?

A. He generally tries to get the highest market price.

Q. Do you know anything about the harbor delivery and storage, and how that affects the ultimate cost of delivery by pipe line as compared with freight?

A. I don't know just what you are getting at. Do you mean the lighterage charges across the bay?

Q. Yes, and the storage charges on oil pipes up, so to speak, at a terminal by pipe line?

A. I don't know what they are, no, sir.

Q. Have you ever bought oil in the City of New York?

A. No, sir.

Q. Referring to the contract of November 1st, 1905, between the Consolidated Gas Company and the Standard Oil Company to which your attention has been drawn, it provides, you observe, for the delivery of 255,000,000 gallons of oil. That is a very large order, is it not?

A. Yes, sir.

Q. How long a period is that?

A. I did not notice.

Q. Two years and eight months?

A. Yes, it would be about 2,000,000 barrels a year.

Q. That is a larger order than your company ever filled, is it not?

A. Yes, sir.

Q. This contract also calls for homogenous oil as you indicated. If you had to provide homogenous oil of the character you
4510 have described instead of oil of the same degree of test obtained by mingling other oils at your own convenience you would expect that a somewhat higher charge would be made for it, would you not?

A. Oh, no, I do not think so. In the higher oils there is very little danger of their mixing anything higher than that because the higher oils would go into the water white or prime white.

Q. Anything higher than which, the 28 or 34?

A. No, anything higher than would make homogenous oil at 34; say it would run down to about 41 or 42, and would go into prime white oil and then from that on down to 31, would average perhaps about 34, 34 to 35 gravity.

Q. And you observe that 40 per cent. of this 255,000,000 gallons must be 34 degrees Beaume?

A. Yes.

Q. And only 60 per cent. 28 degree and you observed the 34 degree is to be delivered exclusively during the months of November, December, January, February and March of each year and the 28 degree gravity during the months of March, April, May, June, July, August, September, October and November of each year?

A. I did not notice that.

Q. Look at it (handing book) and see if it does not say so, is that correct?

A. Yes.

Q. It would take very large distilling facilities, would it not, to provide for that contract?

A. Yes, sir.

Q. And would not the fact that all of this high grade oil has to be delivered within these few months in the winter, and perhaps accumulated and stored for that purpose, tend to make the contract more onerous on the contracting party, the Standard Oil Company?

A. Well, it is rather more advantageous to the parties delivering, because it would be taken during the time when the most refined oil is marketed, that is, during the winter. It is more advan-
4511 tageous to deliver that oil in the winter than in the summer.

Q. But do you know what the expenses for storage are? I think you said you did not?

A. Not in the harbor, no, sir. The expense of storage at the refinery, of course, would be the interest on the investment, that is practically all.

Q. It would make a difference to the purchaser of the oil, whether the company which was to deliver it, had very large storage facilities, would it not?

A. They would have to rely upon the fulfillment of the contract, yes, sir.

Q. And especially if they only had 24 or 48 hours' supply on hand which the consumer must himself *could* provide for?

A. He would have to provide to protect his contract, of course.

Q. Do you know of any other independent producer as distinguished from the Standard Oil Company and the company which it controls which has ever undertaken to fill an order for 255,000,000 gallons of these gravities within this period?

A. I could not state, no, sir.

Q. You have never known of such a case?

A. No, sir, not that I can testify to.

Q. Do you contend that kerosene oil, as used in lamps and the like, is more economical as to gas making than gas oil made from Pennsylvania or Ohio oils?

A. Well, on that question I don't know that I can testify, not being a gas maker; but I know that gas companies have preferred in buying to get the lighter gravity oil.

Q. Will you define the term of residual oil as you used it?

A. Yes, it is the oil that is left in the still after distillation.

Q. The freight rate to which you have referred would be merely to the harbor line of New York, would it not? In other
4512 words, it would not carry the oil into the tank of the gas company in New York?

A. No.

Q. And whatever additional charges there would be in that connection, you do not know personally?

A. I know that there is a lighterage charge of three cents usually

exacted in New York harbor on delivery to the New York side, that is, New York proper; but I don't know anything about the facilities for receiving the oil after it is delivered here; I don't know anything about that.

Q. Do you know what per cents. would be distilled at the several distillation temperatures?

A. I am not familiar with the making of gas, no, sir.

Q. When you speak of what is left in the still, you mean final distillation?

A. No, distillation down to the point of 28 gravity in the still. That would be partial distillation, taking off the benzine and the lighter oil, the water white oil. Of course final distillation leaves nothing but coke in the still.

Q. How much oil does the Globe Company sell per annum of 34 degree Beamue homogenous?

A. I cannot tell you.

Q. Well how much of 28 degree homogen-ous?

A. I cannot tell you that, either, not now. I can send it to you if necessary.

Q. Can you not state approximately?

A. No, I don't think I could. I haven't it in mind. I have not kept track of it. It is not our principal business.

Q. Would it be 100,000,000 gallons?

A. No.

Q. Would it be 50,000,000 gallons of 34?

A. No.

Q. Would it be 25,000,000 gallons of 34 homogenous in a year?

A. No, I don't think so.

Q. And you cannot be any more definite in regard to 28 degree?

A. No.

Q. Do you sell more 28 degree or 34 degree?

A. I think more 28.

4513 Q. Do you insert in your contracts the word homoge-n-ous in selling oil usually?

A. We usually comply with the specifications; if they are in the specifications of the gas company of course it is inserted.

Q. If they are not in the specifications of the gas company you never suggest homogenous, do you?

A. It would not be to our advantage anyhow.

Mr. MATHEWSON: That is all.

Mr. PAGE: Now, if the Master please, we have a witness and he can answer a great many of Mr. Mathewson's questions, but it is necessary, as has been shown by this witness, for us to have a sample of their oil of the 34 and 28 degree, and I would make an application for a quart of each for which we will pay at the current rate described in this contract, which is higher than we could buy it in the market probably, but nevertheless we will pay it. And to be sure, we would like to help draw it. Have you any objection to that Mr. Mathewson?

Mr. MATHEWSON: I do not think that I am called upon to say anything about that subject. We have contracted for 34 degree oil,

if we do not get it, we are getting cheated. What we contracted for was 34 and 28 degree oil, and if it appears that it is something else, which I have no notion it would be, we would simply have an action for damages, perhaps. I do not see how it affects this case.

Mr. PAGE: Brother Mathewson knows that I do not have any desire to affect the very pleasant and cordial relations existing between the Consolidated Gas Company and the Standard Oil Company, and I would hate to throw a firebrand which would in any way affect those relations. But the purpose is entirely dif-
4514 ferent; it is not to help them in any suit for damages but it is to enable us to ascertain the exact quality of oil they are using so that another witness can go on the stand and say what he would furnish that identical oil for, and that is what I will do if they give me that information.

The MASTER: That is a matter for you and Mr. Mathewson to arrange by stipulation, if possible; if not, by application to the Court. I do not know that I have any power to compel them to furnish you with oil any more than I would permit the inspection of the plants. The books and papers are a different matter. The two quarts of oil I think are *ultra vires* as far as I am concerned.

Mr. PAGE: Mr. Burr suggests that we already have the right to inspect the plant and the supplies on hand and this is part of the supplies on hand, but I prefer to inspect it by the way of experts. As I understand, then Mr. Mathewson refuses to let us have the sample.

Mr. MATHEWSON: Senator, don't understand so much as that, but this proposition is one which I would like to consider a little, and it seems to me it is wholly immaterial. I cannot see the bearing on the case, provided you should get your sample and you should prove we are being cheated in the oil we are getting.

Mr. PAGE: But I might show that this contract, and which is probably the fact, is a hokus pokus contract with a higher price named than you are paying, and that everybody else can get it at a lower price than you are paying.

Mr. MATHEWSON: There is the contract for certain oil. The question of whether it is a provident contract or not or whether it should be set aside——

4515 Mr. PAGE: But the City and State have a right, in fixing the price which you shall charge for your product, to hold you to paying no more than the market rate for your material, and this contract you know is the result of one which was cancelled, having a large portion of it still undelivered and having a higher rate fixed; whether for the purposes of this case or not, I no not know.

Mr. MATHEWSON: It appears in the evidence that that was delivered currently, and that we could not call for the required gravity under the old contract in the winter.

The MASTER: Is there anything further with this witness?

Mr. PAGE: As I understand, the Master's ruling is that he has no power to grant that.

The MASTER: I have no power to compel them to do it if they do not want to.

Mr. PAGE: I do not suppose the Court would have any more power than you have.

The MASTER: Well, the Court might take the power, whether it has it or not. The Court could lock a man up for non-compliance with his order, and I cannot without application to the Court, so that is the distinction.

Mr. BURR: Will they produce a barrel of oil in response to a subpœna *duces tecum?*

Mr. MATHEWSON: How much would you pay us for the oil that you want for a sample per gallon?

Mr. PAGE: We have offered to pay the contract rate.

Mr. MATHEWSON: We would expect to make a profit.

4516 EMERSON MCMILLEN, recalled as a witness in behalf of the defendant, the State of New York, testified as follows:

Direct examination by Mr. KIRBY:

Q. Mr. McMillan, you have already testified as a witness in this case, have you not?

A. Yes, sir.

Q. I believe you are President of the American Light and Traction Company, are you not?

A. Yes, sir.

Q. And does this company control the gas companies operating in Milwaukee, Detroit and Grand Rapids, Michigan?

A. Yes, sir.

Q. Is it the fact that in the City of Milwaukee such gas company furnishes a yearly output of gas of 2,142,397,000 cubic feet and sells 2,010,016,000 cubic feet, is that the fact?

A. That is about the figure.

Q. What is the average price such company receives for its gas?

Mr. MATHEWSON: I object to that. It seems to me that is no criterion of what gas can be produced for here. Testimony of the same sort was offered before the Gas Commission, and even they excluded it as being without value. Conditions are different, materials are different, the cost of labor likely is quite different.

The MASTER: That is all so, Mr. Mathewson, but we have taken a great deal of testimony in one form or another involving the conditions of the gas business in other cities, and of course everybody realizes that the conditions in those two places are the same, and that this may raise a lot of collateral issues, but, however, I think all the testimony ought to be regarded as some value, and I will take it and give you an exception.

Mr. MATHEWSON: Exception.

4517 A. I will have to look at my figures to get the exact amount. I think I have got them here (referring to paper) for the twelve months ending October 31st, the average price was 85.44 cents.

Q. You have a certain price there for the first one thousand feet used in any one month, haven't you?

A. Yes, sir. The price prevailing at present and the price prevailing for some years was and is $1.00 for the first one thousand feet; 90 cents per thousand feet for the next 25,000 feet and all over the twenty-sixth thousand feet, 80 cents, for the gas consumed in any one month through one meter.

Q. That is for illuminating purposes?

A. That is for illumination. And for fuel, the first ten thousand feet was and is 80 cents a thousand; the second ten thousand feet 70 cents a thousand and all over twenty thousand feet is 60 cents per thousand feet. Now, the average of those for the twelve months ending October 31st, was 85.44 cents per thousand feet.

Q. Have you made any reduction in price in Milwaukee, the same to go into effect after January 1st, 1907?

A. We have.

Q. What are such prices to be after January 1st, 1907?

A. The prices which have been officially fixed by the Board of Directors and announced to the public is that gas used for any and all purposes for the first ten thousand feet will be 80 cents; the second ten thousand feet 70 cents, and all over twenty thousand feet 60 cents, from and after January 1st.

Q. If these prices had been in use for the twelve months ending October 31st, 1906, what would the average price have been during those past twelve months?

A. 77½ cents.

Q. Did the prices in use up to November 1st, 1906, give you a satisfactory return upon your capital invested?

4518 Mr. MATHEWSON: Is not that a little bit extreme? I think I shall object to that.

The MASTER: I think that is a little objectionable, as to form.

Mr. PAGE: The Master recalls that this witness was called as an expert as to what was a satisfactory return, by the complainant.

The MASTER: Hardly satisfactory, was it?

Mr. PAGE: What he should expect to get.

The MASTER: What the market conditions were, as respects gas securities and what investors required as a return. I think you could show the same thing as regards this company and how its securities sold and were disposed of and on what basis.

Mr. PAGE: It was not on that theory that they offered it at all.

Mr. MATHEWSON: The earning power of capital invested.

The MASTER: Ask him what the return was. You can get it in that way.

The WITNESS: Then he objects.

Q. Was the reduction which your company has made and which goes into effect on January 1st, 1907, a voluntary reduction on your part?

A. Yes, sir.

Q. Now, one of your companies sells gas in the City of Detroit, doesn't it?

A. Yes.

Q. Can you tell us the number of thousand cubic feet of gas made and sold in Detroit by your company?

A. During the twelve months ending October 31st, it made 2,288,447,700 feet and it sold 2,121,765,300 feet.

Q. What was the average price which you received for the gas sold?

A. 81.66 cents.

Q. And the candle-power of that gas was what?

A. The average was 18.2.

4519 Q. And what was the average candle-power of the gas at Milwaukee?

A. 17.

Q. One of your companies makes and sells gas in the City of Grand Rapids, doesn't it?

A. Yes.

Q. And how much gas was made and sold there for the twelve months ending October 31st, 1906?

A. It made 739,158,400 feet and sold 670,016,500 feet.

Q. And what was the average price received for that gas per thousand?

A. 87.76 cents.

Q. And the average candle-power?

A. 18.3.

Q. And the prices in Detroit and Grand Rapids were those set by your company and were voluntary on their part, were they not?

A. The prices in Grand Rapids are voluntary on our part, yes. The price in Detroit is less than the average of last year, but the price now, the highest price is 80 cents, while the average for the twelve months was 81 cents. We made a reduction in April.

Q. What was the reduction from?

A. Previous to the middle of April we sold illuminating gas at 90 cents and fuel gas at 80 cents. The reduction was made to 80 cents all around for the first fifty thousand, 70 cents for the second fifty thousand, 60 cents for the second one hundred thousand and 50 cents for all over that.

Q. And those reductions were voluntary on part of the company?

A. Yes.

Q. Have you figured what the average price would be under the reduced rates?

A. The reduced rates if they had applied last year, the average would have been 79 cents. The very low rates cut no figure now. We hope to get power for that business after a while.

Q. You anticipate an increased consumption by reason of the reduction in price?

A. Yes.

Q. Has there been any reduction in Grand Rapids from the

4520 figures for the twelve months ending October 31st, 1906?

A. Yes, it would be a little bit hard to explain, as we have adopted in a very large measure there a system known as the "readiness to serve"; the consumer pays so much for having his meter set there per month and so much for capacity, so much per light for that meter, and then he pays 50 cents for his gas after that, and we figure that it would reduce our profits on the quantity that they con-

sumed previous to that about $40,000 or $50,000 a year, the reduction that we made would cut that a big figure.

Mr. MATHEWSON: Was that in Detroit?

The WITNESS: In Grand Rapids. I would like that on record, that we did that because we thought we were making too much money.

Q. But you anticipate that satisfactory results will result therefrom?

A. We expect to get it back, yes, sir.

Q. Where you have reduced your prices it has been your experience, has it not, that the amount of gas sold would increase owing to this reduction?

A. Nearly uniformly so, yes.

Q. If it did not increase you would consider that an exception to the general rule, would you not?

A. Yes.

Cross-examination by Mr. MATHEWSON:

Q. You find that consumption increases even when you do not lower the price, don't you?

A. Yes, sir.

Q. So that you would not consider all increase of consumption is due to a lowering of the price?

A. By no means; perhaps not half of it.

Q. Do you know what the consumption per capita is of each
4521 of your companies to which you have referred?

A. I could hardly state them now, but I know about.

Q. Can you tell about?

A. Yes. That is of these companies that have been named? They are running about—Milwaukee and Detroit, I think, a little less than 6,000, Grand Rapids a little more.

Q. 6,000 feet per capita?

A. Yes.

Q. It is testified that the consumption at present in the Island of Manhattan is over 9,000 feet per capita, or higher than any other city in the world. Would it not be true that the higher consumption you get per capita the less opportunity there would be for increased consumption per capita beyond that?

A. Absolutely, yes, sir.

Q. And would not that be something to be taken into consideration when you are estimating what increase there might be per capita in the future?

A. Yes, sir.

Q. Would not the situation be affected also by the fact that Manhattan Island is surrounded by water and this company has no franchises in the suburbs outside, while in the case of Detroit and Milwaukee and cities of that character there is a suburban growth which the companies can annex constantly?

A. But which they dislike to annex as a rule.

Q. But it finally reaches a point where it is extremely profitable?

A. It reaches a point where they have to, to keep some other people

from getting it. It helps street railways, but is bad for gas companies and electric light companies.

Q. You say a certain amount of meters is charged?

A. That is fixing the person for readiness to serve, we fix a charge of 50 cents for that service.

Q. And you know no such charge can be made in New York City?

4522 A. We do not make them there except by contract with each party. We are not required to do that.

Q. And you know in New York they are not permitted to make meter charges, don't you?

A. We do not call it a meter charge, but that is what it is in effect.

Q. And if you were comparing prices in cities where such a meter charge could be made with a city where it is impossible to make such a meter charge, that of course would have to be taken into consideration?

A. Yes. I do not lay any stress on the charges. You notice Grand Rapids averages 80 cents, even with this readiness to serve.

Q. And what is to be considered as nearly the average price which you get for your entire output?

A. That is the average price between these charges I speak of?

Q. And the average price is the important element?

A. Yes.

Q. You say that the Milwaukee gas is 17 candle power, about. Tested where?

A. It is tested of course, these records that we have are tested at our stations.

Q. You refer to 17 candle power at your station?

A. Yes.

Q. And maintaining an average of 17 candle power at your station don't you find that the candle power at the station sometimes drops below 15?

A. At the station?

Q. Yes.

A. No.

Q. It would at the consumers' in some instances?

A. It might, but we do not test it out there.

Q. Is that coal gas or water gas?

A. Chiefly coal gas.

Q. You have stated that these prices are prices which you have fixed voluntarily. Is it not a fact that in Detroit the prices

4523 were fixed pursuant to an arrangement which you made with the city by which your franchises were renewed or confirmed or something?

A. No.

Q. Is it not true in either one of the three cities?

A. No. In Detroit under our franchise we would have been compelled to make some reduction within a couple of years and we made it in advance of the time and asked the city to repeal a clause of the franchise that required us to report the quantity of illuminating gas sold each year; we would agree to report all of it, but we did not

want to separate it, for it required us to keep two meters; and then we wanted the privilege of charging less than eighty cents and it took us about six months to get the privilege of reducing the price.

Q. In Milwaukee the gas is coke oven gas, is it not, largely?

A. A portion of it is.

Q. In which gas is regarded as a residual?

A. In the coke oven, yes, sir.

Q. Is there any law forbidding you to raise the price of gas again in any one of these three cities if you find that such conditions arise that it cannot be profitably delivered at these prices?

A. We could not raise the price of gas in Detroit until the expiration of the present franchise.

Q. How about Milwaukee and Grand Rapids?

A. In Milwaukee we have a perpetual and exclusive franchise where the price is not mentioned; it has been litigated and sustained by the Supreme Court.

Q. You would make an allowance, of course, if you were obliged to deliver in Milwaukee or in any one of these three cities gas testing 22 candle power, from your works with a penalty of $1,000 for every time the candle power fell by such test below the 22, as against the gas which you do now furnish, would you not?

A. I could not sell it at the same price at all, no.

4524 Q. Now you were almost asked what return you were earning in Milwaukee on your investment. Have you any objection to stating?

A. I am not almost persuaded to answer.

Q. Would you rather not state it?

A. I would rather not, yes, sir.

Q. Well, it is true is it not that your four and one-half per cent. bonds in Milwaukee are selling at about 93 or such a matter?

A. Well, I think that is the price they sold at the last that were sold. I don't know of any bonds sold at any price at the present time.

Q. Is it not true that the earnings were sufficient several times over to pay the interest on those bonds?

A. I prefer not to answer that question unless it is essential to do so.

Q. It is true, is it not, that the price of bonds depends to a considerable extent on the margin of earning capacity over the amount required to pay the interest on the bonds?

A. Yes, sir, and the character of the franchise.

Q. And in Milwaukee you say it is perpetual and exclusive?

A. Yes sir.

Q. Now, in Detroit you say the candle-power is 18 and a small fraction on the average; that also is at your works, is it?

A. At our works, yes, sir.

Q. And at Grand Rapids, 18 and a fraction, that is also at the works?

A. Yes, sir.

Q. Your experience in the gas business shows that conditions in the East in cities like New York, for instance, are substantially different from those prevailing in many regards in the manufacture and

distribution in Western cities like Grand Rapids, Detroit and Milwaukee, does it not?

A. Yes, very much different.

Q. And you would not be willing to take any one of those three cities as a criterion of what you could afford to manufacture
4525 and sell gas in the City of New York, under conditions here prevailing?

A. I am not familiar with the conditions prevailing here now, I could hardly answer that question in a way which would be of any value to you. Years ago I was, but I know nothing of the conditions here now.

Q. Have you a franchise tax in the case of any of these cities?

A. In fixing the value of the property they took into consideration the value of the franchises. I think in the two largest of those cities, Detroit and Milwaukee, they put them something like two and one-half million dollars, the assessors themselves, but as I remember it, it is lumped, it is not put down as a separate item.

Q. Do you remember what your taxes per thousand are in the City of Grand Rapids?

A. I am not sure about that, I can tell you, but I cannot remember. What city did you ask for?

Q. Grand Rapids, or in any one of the three.

A. I have not got the details. I have got a great many details here which speak about the average of all the works we have, but not separately. I think in those two places the taxes are about 6 cents a thousand.

Q. Isn't it true that the cost of material and labor differs in different parts of the country?

A. We find it so, very materially so.

Q. And when you were in the City of New York and managing the Standard and East River Gas Companies, didn't you find that the expenses in many directions, as, for instance, laying mains and services, of repairs and maintenance, would cost far more than they did in the western cities?

A. Yes, sir.

Q. In view of the questions which you have been asked in the testimony to-day, do you desire to change your testimony at all
4526 as heretofore given as to the return which an investor in gas properties expects to earn on the investment?

A. No, sir.

Q. From your knowledge of the gas business, is it not true that that you would not be able to express an opinion as to the price at which gas could be manufactured and delivered in the City of New York with an adequate return upon capital, without a very careful consideration of details in New York?

A. No, sir; I would not want to.

Q. That depends finally and fundamentally, does it not, upon the conditions prevailing in each community as to the cost of material, cost of labor, character of pavements, burdens placed upon the company in the way of taxes and otherwise and all the other elements which differ in different cities, is that a fair statement?

A. Absolutely correct, yes, sir.

Redirect examination by Mr. KIRBY:

Q. If you were considering the cost of producing and distributing gas in the City of New York, you would take into consideration these elements just spoken of by Mr. Mathewson, but would you not also take into consideration the cost at which you find you can produce and distribute gas in other cities?

A. I do not believe I get the gist of that question.

Q. If you were considering the cost of producing and distributing gas in a certain locality, would you not take into consideration the cost of producing and distributing gas in other cities with which you were familiar, as well as those elements of labor, material and such to which Mr. Mathewson has just referred?

A. He named about all, I think.

Q. Would you not take into consideration the density of the community or of the population, the amount of gas sold, and of mains?

A. I would. It is an important element.

4527 Q. And would you not consider that a large sale per mile of mains would be more advantageous as affecting the cost than a small amount of gas sold per mile of mains?

A. Yes. Very much prefer to have the larger sale It produces the interest on the investment.

Q. That is, a large consumption per capita is an element going to reduce the cost and distribution of the gas?

A. Yes, sir.

Q. Mr. Mathewson has made reference to the value of certain gas securities and the franchises which your companies have in the cities spoken of. Would you consider that where a franchise was doubtful or questioned by the municipality in which the company operated that a less return would be expected from the company's securities than if such franchises were not doubtful or questioned?

A. Well, I certainly would not expect to sell securities of a company located in a city where the franchise was in doubt at as good a price as I could sell it where the franchises were beyond doubt.

Q. In Milwaukee where a small portion of the gas which you use is coke oven gas, do you, or do you not, consider that your purchase of coke oven gas raises the price of your gas over that which it would be if you manufactured gas in place of your coke oven gas used, as respects the cost?

A. Let us reason a little bit. He did not ask me whether that reduced the cost or increased it.

Q. He did not.

A. Do you want to?

Q. I know what his argument is going to be and therefore I press the question.

A. Let us leave the coke oven out.

Q. Well, I had hopes it would be left out, but Mr. Mathewson asked the question and I think he might withdraw the question and we will leave the record stand without it. I do not want to go into it.

4528 Mr. MATHEWSON: I merely asked if part of the gas was coke oven gas.

Mr. PAGE: And which gas was a by-product?

Mr. MATHEWSON: Coke oven gas is a by-product, always, I believe. I do not understand there was any objection to my question.

The WITNESS: It is a residual with the manufacturer, but it is a principal with the purchaser.

By Mr. PAGE:

Q. And you buy it?

A. We buy it, yes, sir.

Q. What do you pay per thousand feet for the coke oven gas that you buy?

A. I won't tell you.

Mr. PAGE: I would rather have the record stand that way than have Mr. Mathewson's idea of it.

The WITNESS: I do not want to be disrespectful, but I should prefer not to tell.

Mr. PAGE: I have not asked that you be compelled to answer.

By Mr. MATHEWSON:

Q. You have stated that you were furnishing coal gas of the candle power that you have described in these cities; could you furnish to consumers a gas of 22 candle power tested a mile from your works at least—straight coal gas?

A. No; couldn't make it.

Q. You would have to enrich in water gas in that case, wouldn't you?

A. Yes, sir.

By Mr. KIRBY:

Q. And in these companies where the gas is furnished it
4529 is enriched so that it will be of the candle power indicated, is it not?

A. Yes.

By Mr. MATHEWSON:

Q. I desire to ask you whether there is natural gas in any one of these three cities to which you have referred?

A. Not at present; there has not been in any of them for three or four years.

Q. There was formerly, in Detroit?

A. In Detroit, formerly.

By Mr. PAGE:

Q. As I understand, the density of population, the amount of gas delivered per mile of mains, the amount of gas delivered per meter or consumer, is a very important element in determining the price which could be or should be charged for gas, is it not?

A. Yes, sir.

Q. In any of the cities that you have testified to is there as great a density of population, as large a sale per mile of mains, or as large a sale per meter as in the City of New York?

A. I should think not. Certainly not such a sale per mile of main, and I should think not as large per meter as in New York.

Q. And the per capita has been stated by Mr. Mathewson to be the largest sale of any city in the world, in the City of New York here to-day?

A. I don't know of any larger.

By Mr. MATHEWSON:

Q. Do you remember the sales per meter of these companies?

A. In the neighborhood of 30,000 a year per meter, I think.

Mr. MATHEWSON: Ours is only 34,000 feet per meter.

4530 The WITNESS: I can remember when our figures varied all the way from 30,000 to 35,000.

By Mr. PAGE:

Q. How many miles of main can you recall that you have in Milwaukee?

A. I think it is between 300 and 400.

Q. And Detroit and Grand Rapids, if you can recall?

A. Detroit would not be very far from the same, and Grand Rapids would not be more than half as much; less than half as much.

The witness is now excused.

Mr. BURR: The accountants inform me, since considering the matter during recess, that if they are afforded facility they can examine certain accounts for the year 1902 and report and testify regarding the same on Monday. Repair and renewal accounts, depreciation, legal and advertising, general expense, gas stoves, and oils.

The MASTER: That is what they said this morning.

Mr. BURR: Yes.

The MASTER: Well, what about the other questions that I suggested; that is, how it fits in with your associate, the State's plans, to have Monday taken up for that purpose? Also, what is there now to show me as to the materialty of this when it is done? I want some sort of succinct statement to indicate how in determining the reasonableness of the cost of gas at the present time a comparison of costs in past years as far back as you propose to go is going to be of service.

Mr. BURR: The testimony already in the case would tend to show that these items for 1905 were at least suspicious because they

4531 are so large. Take the question of the oil. Now, we believe that that is a very excessive price.

The MASTER: If I built a house in 1905 and had built a house of the same kind in 1900, would the fact that it cost me more in 1905 than it did in 1900 be necessarily suspicious? Might it not be at least more expensive in one year than in the other?

Mr. BURR: This is a little different. This is a public utility corporation whose expenses in one year are so much and in another year so much larger. We are entitled to have you know the exact situation for both years so that you might see the situation as the examination of the books shows; and we claim as a matter of argument upon that situation that these accounts to-day are most excessive, and that these prices that are paid are excessive in these various items and that they should not be charged to the cost of gas.

The MASTER: It may be. I do not say that you cannot show it, but I do not see how it necessarily follows from the fact that it was lower five years that the prices are excessive.

Mr. BURR: But to have the matter fairly presented we ought to have the benefit of a comparison with a prior year, in 1902.

Mr. MATHEWSON: If the Master please, I confess it is not necessary for me to add much to the statement of counsel, but it would be simply preposterous to go into the price of oil in 1902 to prove what we ought to get it at in the market to-day. Even 1904 is not the criterion, because their own witness has testified this afternoon that oil is up five-eighths of a cent beyond what it was a short time ago, a year ago, something like that, and it would consume time to absolutely no purpose.

4532 Mr. BURR: It is not consuming your time; it is consuming our time.

Mr. MATHEWSON: Well, it is. It is consuming our time.

Mr. BURR: Now, on that point, Mr. Master, we want to have an opportunity to compare the company's accounts before its investigation with them as they appear since its investigation.

Mr. MATHEWSON: The contracts as to oil are in evidence, covering, I think, the whole of the year 1904, or practically that, which was a period before any investigation was thought of. That was begun in 1905 and the resolution introduced in the Legislature in 1905, so that if it were pertinent at all, 1904 would be reasonably near and more valuable; but even that, it seems to me, would be wholly valueless, in view of the fluctuating prices of oil. It does not seem to me it makes any difference what we had to pay for oil in 1902 or in 1895. It is what oil is worth now and what we prudently can get it at.

Mr. BURR: It shows how much and what kind of oil you are using.

Mr. MATHEWSON: We had a lower candle power to take care of, also had a law which permitted us to have tests once a week and no penalty affixed unless three successive tests, a week apart, showed each time a candle power below 20.

The MASTER: Mr. Burr, unless you can show me something a little more specific, your application does not commend itself to my discretion very much. I do not think——

Mr. BURR: I cannot make it any more specific than I have made it; that, I think in justice to the defendants we are entitled to

4533 have a comparison of the accounts named for another year besides 1905.

The MASTER: And another thing, especially when made at this stage of the case, when defendants are finishing up their case. If there was anything so very important about this it ought to have been revealed before this time, it seems to me.

Mr. BURR: We could not be in a position to make the application until the accountants had reported. They only finished their report this afternoon, by testifying to-day.

Mr. MATHEWSON: These oil contracts were put in by us months ago.

Mr. BURR: Months ago I asked for this examination and it was refused. It does not come out of your time, it will come out of our time. If these accountants can report on Monday on a few items, I think it would be wise to permit us to have it done.

The MASTER: You object to it, Mr. Mathewson, do you?

Mr. MATHEWSON: I do, most strenuously. It is impossible to do it, in the first place, as far as we are concerned, in that length of time, even to get out the vouchers for such examination as has been suggested by counsel.

The MASTER: How much of a force are you going to employ there?

Mr. BURR: The same force as they had before.

The MASTER: If I were at all satisfied of the materiality I would run the risk of the inconvenience and all that, but the difficulty in my mind is that I do not see how it is of any importance.

Mr. BURR: It is important to show, for instance, whether the method of operation was different in 1902 from what it is at
4534 the present time, and whether the change in that method of operation has increased the cost of the manufacture and distribution of gas.

The MASTER: Assume there was a difference. What difference does that make? The question that I have got to decide is, what the conditions are to-day. Now, what they have done in the past, whether good, bad or indifferent, I do not see how it affects the question before me.

Mr. BURR: It will throw some light on it, if, as we claim, their expenses are enormous or unnecessarily excessive.

The MASTER: If that is so, there are plenty of ways to show it without trying to prove it out of their own mouths. Prove it by somebody else.

Mr. BURR: I think their books will show that.

The MASTER: I do not see that it is competent evidence as to value.

Mr. BURR: Well, I cannot do anything more than make the application.

The MASTER: If you can show me how you are prejudiced in any material way by not having it, or can satisfy me that the evidence would be such as I deem admissible when it does come here, that will be another thing.

Mr. BURR: If a condition of things appears, that they were economically conducting their business in 1902, in comparison with the method in which they are conducting their business now, that is something you should know. If there is any justification for the expense they are putting the company to to-day——

The MASTER: It might be something interesting to know, but I do not think that would be of any assistance to me in determining the issues raised by this suit. The reason I hesitate is that I
4535 am loath in this case now to refuse any reasonable source of information. I think I have tried to be liberal in allowing testimony, even testimony about which I had grave doubts, but this involves a good deal of inconvenience to the complainant, on your own showing, and the time is very short. You have got other

witnesses to examine before your time expires and I do not think that the importance of it is sufficient to justify me in asking that order now. I will deny the application, Mr. Burr, and let you have an exception to my ruling.

Mr. BURR: I take an exception.

Mr. KIRBY: We have no other witness this afternoon, Mr. Master.

The MASTER: None at all?

Mr. KIRBY: No, sir, none at all. It is after four o'clock.

The MASTER: Mr. Burr, you have no other witness?

Mr. BURR: I will be, as I explained, ready in the morning to proceed with Dr. Marks.

The MASTER: There being no other witness ready we will adjourn until to-morrow at half past ten.

Mr. PAGE: In order that we may make our preparations, are we going to sit Saturday of this week?

The MASTER: If you like. I am at your service. I made no other engagements.

Mr. PAGE: I shall be glad to sit Saturday, and we will be prepared to go on.

At 4:10 o'clock P. M. adjourned to December 5, 1906, at 10:30 A. M.

Last Exhibits:

Complainant's 256.
State's YY.
City's 88.

4536 UNITED STATES OF AMERICA,
Southern District of New York, ss:

I, John A. Shields, Clerk of the Circuit Court of the United States of America, for the Southern District of New York, in the Second Circuit, do hereby Certify that the foregoing (Vol. 6) pages, numbered from 3667 to 4535 inclusive, contain a true and complete transcript of the record and proceedings had in said Court, in the cause entitled Consolidated Gas Company, Complainant, Appellee, against Julius M. Mayer, as Attorney General, *et al.*, Defendants-Appellee, as the same remain of record and on file in my office (Vol. 6).

In Testimony Whereof, I have caused the seal of the said Court to be hereunto affixed, at the City of New York, in the Southern District of New York, in the Second Circuit, this 15th day of May in the year of our Lord One Thousand Nine Hundred and eight and of the Independence of the said United States the One Hundred and thirty-second.

[Seal of U. S. Circuit Court, South. Dist. New York.]

JNO. A. SHIELDS, *Clerk.*

[Endorsed:] United States Circuit Court of Appeals for the Second Circuit. —— —— *vs.* —— ——. Transcript of Record from the Circuit Court of the United States for the Southern District of New York.